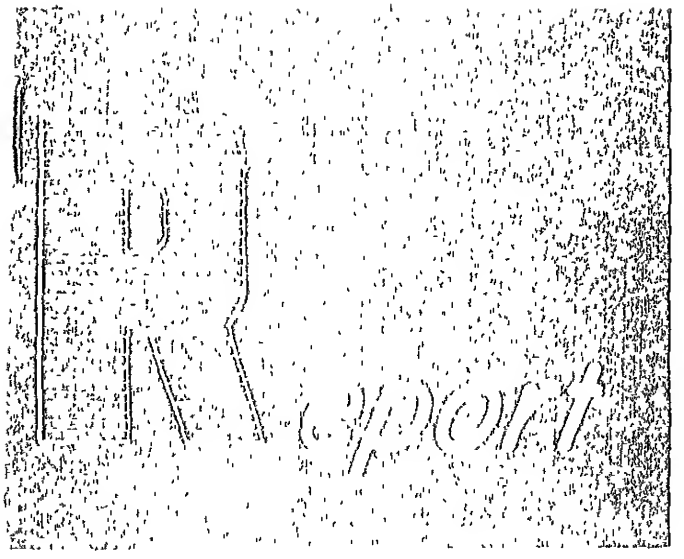

of

State Health Programs for Five-Year Period 1946-1950

VARIATIONS IN STATE PUBLIC HEALTH PROGRAMS DURING A FIVE-YEAR PERIOD

Analysis of Information
from the
Annual Combined Report and Plan
of
State Health Departments

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FEDERAL SECURITY AGENCY · Public Health Service
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INTRODUCTION

A description of health programs of State agencies administering public health grant-in-aid funds was made available for the fifth consecutive year with the submission of the Annual Combined Report and Plan for the fiscal year beginning July 1, 1951. Thus it has been possible to review the forward movements in the extension of State health activities during a five-year period, 1946-1950. Since 1946 the 48 States, the District of Columbia, and the territories of Alaska, Hawaii, Puerto Rico, and the Virgin Islands have submitted this document annually as required by regulation governing Federal health grants.

Provision is made in the reporting document for a description of the various activities and services conducted during the closing fiscal year and a plan of operation for the next fiscal year. Data are supplied through the use of preprinted schedules with a modified check system, employing symbols, to indicate the relative emphasis placed on the particular item, comparison of performance with the previous year, and performance proposed for the next fiscal year. In this study, emphasis is placed on the report of performance rather than on proposed operations for the ensuing fiscal year. Plans for the fiscal year 1951 are reflected, however, in many instances.

This pamphlet is the fourth in a series[1/] prepared from information contained in the Annual Combined Report and Plan. The published series covered the years 1946, 1947, and 1948, but data on State operations during 1949 were not published. This five-year analysis, however, reflects health department operations for that year and for fiscal year 1950, as well as planned operations in selected program items for the fiscal year 1951.

Included in the description of State services are those performed by State agencies other than health departments which participate on a cooperative basis in certain health programs financed by Federal grant-in-aid funds distributed by the Public Health Service. Placement of responsibility for health functions in a State department other than the health department is most frequent in mental hygiene, water pollution control, and hospital survey and planning programs. To a much lesser extent, responsibility for industrial hygiene, cancer services, and tuberculosis control has been assumed by some other agency of State government. Corresponding data available on cooperative activities of State agencies other than health departments have been incorporated wherever possible, as indicated by explanatory footnotes.

The material presented in this pamphlet is grouped in three sections, each section dealing with one of the broad categories of information included in the Report and Plan. These sections are as follows:

(1) The Comprehensive Health Program of State Health Departments,
(2) Participation in Selected Program Functions of State Health Departments, and
(3) Training Personnel for Public Health Programs.

Throughout, the term "State" refers to the District of Columbia, the territories of Alaska, Hawaii, Puerto Rico, and the Virgin Islands, as well as to the 48 States.

1/ The first three pamphlets, of similar title, were based upon State plans submitted for fiscal years 1947, 1948, and 1949, respectively. Publication dates were March 1948, January 1949, and June 1950, respectively.

THE COMPREHENSIVE HEALTH PROGRAM OF STATE HEALTH DEPARTMENTS

Review of program data describing activities carried on during the five-year period under study reflects a broadening in the scope of health programs to include many new functions and expanded performance of established functions. This section discusses the over-all operations of State health departments and, where indicated, those of other State agencies administering grant-in-aid programs for health purposes. Data portraying State health department staffing are also included.

State Public Health Activities

State Participation in Program Activity

A significant feature of the Report and Plan is the summary schedule completed by the State health officer. This schedule describes, by the use of symbols, the over-all health department program. It makes provision for evaluation of health activities individually, for a comparison of each program's operations with the previous year's, and for the projection of program performance during the next fiscal year. In appraising the comprehensive health program, the health officer reviews the individual activities in relation to money expended, personnel employed, magnitude of the particular problem, and progress being made in solving the problem.

Table 1 presents a summary of the major components of comprehensive State health programs, showing the number of States participating in the various activities and the number reporting expanded operations. By 1950, 90 percent of the States were participating in 30 of the 38 designated activities, with 100 percent participation reported for 16 of the 38 programs. Because of the dissemination of health services among various State agencies, the nonparticipation indicated for several functions does not necessarily mean that such functions are not State sponsored. This applies particularly to crippled children's services and to milk sanitation.

Delegation of responsibility for grant-aided programs to some governmental unit outside the health department has been quite common in the newer health fields. Currently, in only 22 of the 53 States the State health agency administers all health programs for which Public Health Service grants are available. Other State agencies have taken a prominent role in water pollution control programs, mental hygiene programs, and hospital survey, planning, and construction activities. In 1950 there were 19 States in which a separate water commission, board, committee, or similar branch of State government was delegated responsibility for activities related to the prevention and control of water pollution caused by industrial wastes, for which Federal grants are available. (In many of these States, these commissions or boards have a member of the State health agency serving as chairman or secretary; and their activities are closely correlated with the health department's activities.) For the same year, there were 16 States in which the State agency responsible for mental health was a department of welfare,

Table 1.--Participation in Designated Health Activities by State Agencies Administering Grant-in-Aid Programs during Fiscal Years 1946, 1947, 1948, 1949, and 1950[1]

Activity	Number of States									
	Participating in activity					Reporting expansion over previous year[2]				
	1946	1947	1948	1949	1950	1946	1947	1948	1949	1950
[illegible]	*	*	*	53	53	*	*	*	37	40
[illegible]	53	53	53	53	53	30	35	36	35	37
[illegible]	52	52	53	53	53	28	27	29	29	37
[illegible]	50	52	53	53	53	34	37	44	42	32
[illegible]	*	42	47	53	53	*	30	35	39	32
[illegible]	53	53	53	53	53	43	45	41	36	30
[illegible]	53	53	53	53	53	30	35	33	29	29
[illegible]	53	53	53	53	53	26	29	26	30	28
[illegible]	53	53	53	53	53	29	34	26	27	27
[illegible] infants and preschool children	53	53	53	53	53	25	27	23	24	26
[illegible]	49	50	51	53	53	21	26	28	21	26
[illegible]	53	53	53	53	53	20	24	18	24	25
[illegible]	53	53	53	53	53	19	27	18	21	23
[illegible]	53	53	53	53	53	26	28	22	25	20
[illegible]	53	53	53	53	53	36	35	26	12	18
[illegible]	52	53	53	**	**	22	20	12	**	**
[illegible]	**	**	**	53	53	**	**	**	10	11
[illegible]	23	28	46	52	52	8	19	40	47	45
[illegible]	30	49	51	52	52	13	40	44	41	39
[illegible]	43	46	50	52	52	17	27	36	40	36
[illegible]	43	50	53	53	52	24	34	37	30	29
[illegible]	47	51	52	52	52	13	29	31	22	24
[illegible]	51	52	52	52	52	31	32	34	25	22
[illegible]	51	51	51	52	52	23	16	20	25	21
[illegible]	**	**	**	50	52	**	**	**	12	11
[illegible]	52	52	52	51	51	28	33	29	30	37
[illegible] and diagnosis	49	51	51	**	**	19	26	22	**	**
[illegible]	**	**	**	50	51	**	**	**	17	14
[illegible]	49	50	50	51	50	23	28	26	31	24
[illegible]	**	**	**	48	50	**	**	**	12	19
[illegible]	*	*	*	18	49	*	*	*	12	47
[illegible]	48	49	49	49	49	25	30	24	20	29
[illegible] and control activities	*	*	*	44	43	*	*	*	17	15
[illegible]	37	39	40	43	43	12	16	6	13	10
[illegible]	39	43	41	**	**	15	26	13	**	**
[illegible] accident prevention	**	**	**	36	39	**	**	**	8	12
[illegible]	**	**	**	32	33	**	**	**	11	14
[illegible]	32	32	30	31	31	13	18	23	23	18
[illegible]	24	24	24	24	28	8	8	8	12	14
[illegible]	*	*	*	9	14	*	*	*	7	8
[illegible]	6	8	8	9	10	3	5	3	5	5

[illegible] with some State agency other than the health department administered specific programs is as follows:

[illegible] control	- 19 States
[illegible] survey and planning	- 6 States, 1947; 8 States, 1948, 1949 and 1950
[illegible] hygiene	- 12 States, 1946 and 1947; 17 States, 1948; 16 States, 1949 and 1950
[illegible] services	- 2 States, 1946-1948; 1 State, 1949 and 1950
[illegible] hygiene	- 2 States

[illegible] activity.

* Program not started on reporting schedule for this year.

** Program started on reporting schedule under a different activity for this year.

department of mental health, or some unit of State government other than the health department. Likewise, in eight States responsibility for hospital planning activities was delegated to a medical care commission, department of welfare, hospital board, or some other agency whose primary interests are in some field other than public health. Thus, there is broad representation of outside State agencies in specialized health programs.

From 1946 to 1950 the health fields displaying greatest increase in number of States participating were mental hygiene and cancer. In 1946 only 23 States conducted mental hygiene functions and only 30 States reported the performance of cancer services; by 1950 all but one State had included mental hygiene services in the health program, and all but one State had developed a cancer program, financed in part by Federal funds. This spurt in activity stemmed from the passage of the National Mental Health Act of 1946 and from the Federal grant for cancer control appropriated initially at the beginning of fiscal year 1947.

The passage of another Act by Congress during 1946 likewise was responsible for more widespread and more extensive participation in hospital survey and planning activities. The Hospital Survey and Construction Act was enacted to assist States in providing adequate hospital, clinic, and similar facilities. States undertook surveys of hospital and health facilities and made plans to meet these needs through new construction partially financed by Federal funds. The number of States participating in hospital planning and construction activities increased from 42 States in 1947--the first year this activity was included in the Report and Plan--to 53 in 1950.

Other programs evidencing considerable increase in the number of States participating during the five-year period include dental services, industrial hygiene, and malaria and mosquito control. The number of States performing dental services and industrial hygiene functions increased in each instance from 43 in 1946 to 52 in 1950.

During the fiscal year 1949--first year of the Federal grant program for control of heart disease--only 18 States reported the inclusion of activities specifically directed toward this problem. However, plans were under way in many States to organize a program against the leading cause of death. By 1950, 49 States had made provision for activities in this field. The majority of the heart disease control programs were in the embryonic stage.

Growth in Program Activity

The number of States reporting expansion of performance each year, as compared to the previous year's performance, is also shown for specific health programs in table 1. Considerable variance is noted in the frequency with which expansion was reported for each activity from year to year. Newer health programs reflected a definite surge of expanded performance for specific years. For example, only 8 of the 23 States conducting mental hygiene activities in 1946 reported growth in operations during that year, whereas 47 out of 52 participating States reported expanded activity for 1949, and 45 out of 52 reported expansion for 1950.

Likewise, growth was reported in 1947 and 1948 for both cancer and dental services by an increasing number of States. Slightly fewer States reported expansion of cancer services in 1949 and 1950 than in 1948; there was a slight decrease for 1950 in the number of States reporting growth in dental services.

A further study of expanded performance with continued expansion of activity or maintenance of increased level of performance was made for 20 specific programs. (See table 2.) These 20 programs represent those services, other than administrative services, for which a comparison of operations could be made for all five years--fiscal years 1946-1950, inclusive. Comparative data for the entire five years were not available for all individual health fields because changes were made during these years in the Report and Plan schedule providing a description of the composite health program as operated and proposed.

The summary carried in table 2 was compiled on an individual State basis for consecutive years. It shows for each activity the number of States which increased performance and continued expansion or maintained an increased level of performance for consecutive years. The number of States which did not signify any increase in operations is also shown for each activity. The figures in the "no expansion" column include States which did not report participation as well as those which reported participation but no expansion.

Activities are arrayed according to frequency with which States reported maintenance of a higher level of performance during all five years. Tuberculosis control was foremost with 34 States indicating maintenance of program at a higher level of performance for five consecutive years. Laboratory services, milk sanitation, health education, and sanitation of food establishments followed, with over half the States indicating operation at an advanced level for all five years. Cancer control was outstanding in the four-year group and mental hygiene in the three-year group, showing 28 and 29 States, respectively, maintaining a higher level of performance.

For several programs no expansion was reported by a number of States for any one of the five years. Represented in this group were several programs for which the percentage of participating States had reached 100 percent or neared 100 percent. Eleven out of 53 participating States did not report increased activity during the five-year period in general communicable disease control and in maternity health services; 9 out of 53 States did not signify any growth in venereal disease activities during the five years.

Assignment of Emphasis to Program Activity

Evaluations are entirely relative under the rating system. The rating symbols used for classifying the relative emphasis placed on each program have no constant values as between States. A program assigned major emphasis by one health officer may represent infinitely more in the way of program activity than the same classification represents in another State.

Table 2.--Number of State Health Agencies Reporting Expansion in Selected Programs with Continued Expansion of Activity or Maintenance of Increased Level of Performance Reflected for Consecutive Years (Fiscal Years 1946-1950)

Activity	Number of States showing increased level of performance					
	For five consecutive years	For four consecutive years	For three consecutive years	For two consecutive years	For a single year	No expansion reported 1/
Tuberculosis control	34	9	7	2	0	1
Laboratory services	29	11	2	5	3	3
Milk sanitation	29	3	3	3	4	11
Health education	28	9	11	3	0	2
Sanitation of food establishments	27	10	8	2	0	6
Public health nursing	25	12	11	4	0	1
Local health administration	24	12	3	6	2	6
Nutrition	21	9	7	7	2	7
Vital records	20	5	3	7	6	12
Maternity health services	19	7	5	7	4	11
Industrial hygiene	18	11	10	6	6	2
Health services for infants and preschool children	18	8	6	8	4	9
School health services	16	12	8	6	3	8
Dental services	14	16	13	5	3	2
Venereal disease control	14	11	7	7	5	9
General communicable disease control	14	9	5	9	5	11
Cancer services	13	28	7	2	2	1
Crippled children's services	12	9	6	4	4	18
Malaria and mosquito control	6	7	4	7	10	19
Mental hygiene	5	6	29	11	1	1

1/ States not participating are also included in the figures shown in this column.

From 1946 to 1950 there were several shifts made in program impetus as revealed by the frequency with which health officers accorded major emphasis to operating activities. For some programs, there was decline in the frequency of assignment of major emphasis, while for others there were noticeable inclines. These situations are most vividly reflected in programs for venereal disease control and maternity health services in the first instance, and for health education, local health administration, crippled children's services, and cancer services in the second instance. There were other activities for which slight increase in number of States was evidenced from 1946 through 1950.

Figure 1 reflects the frequency with which major emphasis was assigned the 20 selected health programs in relation to the number of States participating in each program. For those activities carried on by another department of government, the frequency of assignment of major emphasis by such agencies is not available from the reported data.

Far more States placed major emphasis on laboratory services than on any other program; the number varied from 46 to 48 during the five years. More than half the States carried as major items each year programs for tuberculosis control, maternity health services, public health nursing, and vital records.

The number of States placing stress on health education functions directed toward better health for individuals and communities steadily increased from 1946 to 1950, with twice as many States giving major emphasis to this program in 1950 as accorded major emphasis to it in 1946. Local health administration likewise was given major emphasis by an increasingly larger number of States. By 1950, 35 States reported local health administration as a major item in the over-all health program.

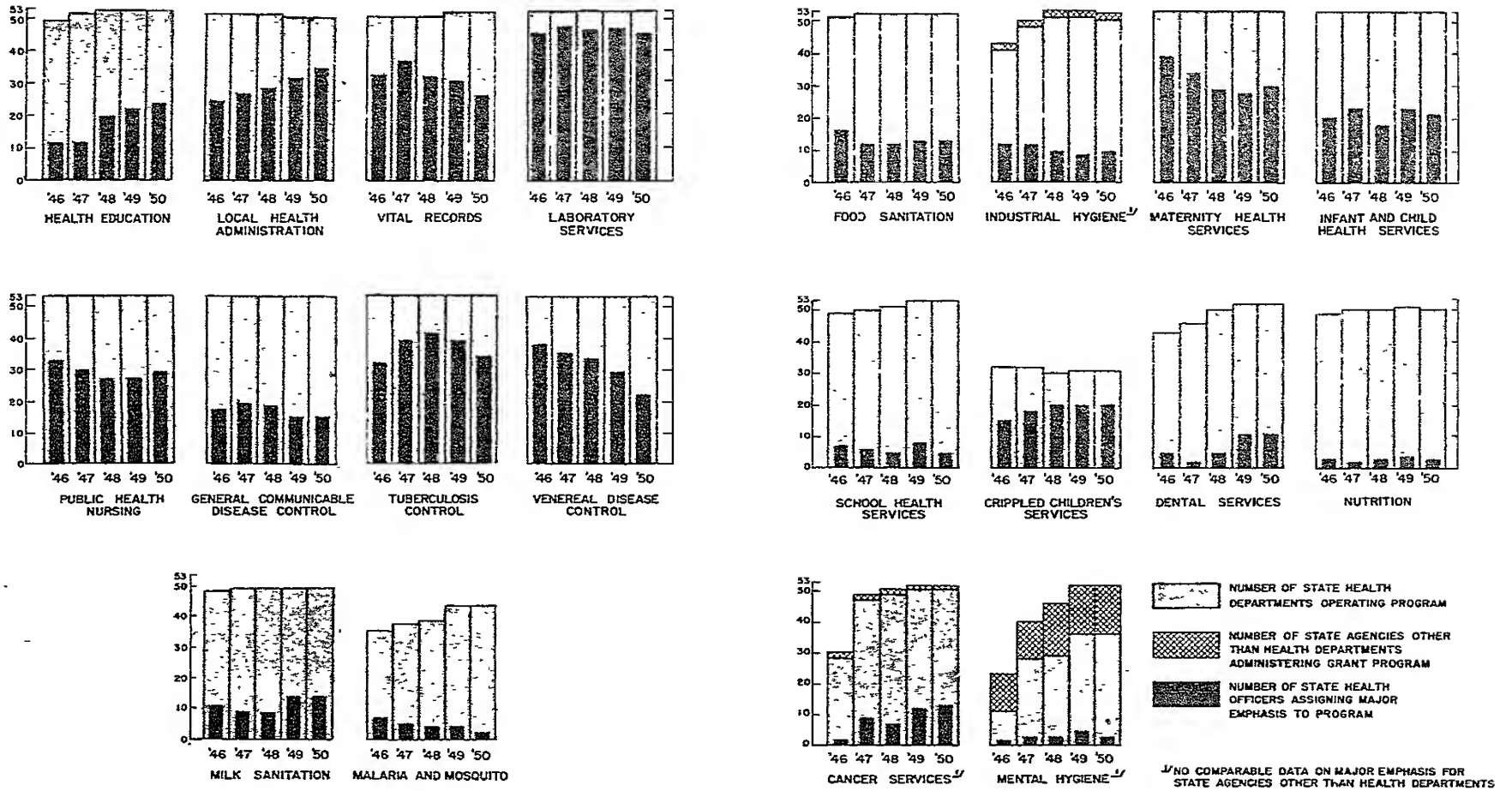
The notable progress which has been made in venereal disease control during recent years accounted for the steady downward trend in emphasis given this activity. In 1946 venereal disease control was a major item of the health program in 38 States, whereas by 1950 the comparable number was only 22. Discontinuation of the Emergency Maternity and Infant Care Program during the period under study was reflected in the reporting of major emphasis for maternity health services. Each year a decline in the number of States assigning major emphasis to this program was shown between 1946 and 1949.

State Health Department Staffing

Growth in Professional Personnel

Added responsibilities and intensification of established State health services have resulted in increased demands for qualified public health personnel in State health departments. Health agencies generally have been unsuccessful since the beginning of World War II in employing the requisite number of professional personnel to carry out the public health program. In some States the salary level has been too low to attract trained and experienced public health professional workers.

FIGURE I—NUMBER OF STATE HEALTH OFFICERS ASSIGNING MAJOR EMPHASIS TO SELECTED OPERATING STATE HEALTH DEPARTMENT PROGRAMS FOR THE FISCAL YEARS 1946—1950



Some strengthening of State health department staffs between 1946 and 1950 was evidenced, however, in the number of employees reported, the over-all increase for the five-year period amounting to 16 percent. A summary of full-time personnel on duty each year in all State health departments is presented in table 3.

Growth which occurred for individual years in the different professional classifications is pictured in figure 2. For all of the professional groups except physicians and dentists, there was progressive augmentation during the five-year period. In some groups, however, the growth was insignificant from year to year.

Generally, the count of physicians fluctuated considerably from year to year; the smallest number--742--was reported for 1949. Inconsistency in reporting by a few States accounted for much of the variance shown in the number of medical personnel employed on State health department staffs from 1946 to 1950. The number of dentists on State staffs likewise varied from year to year. As in the case of physicians, inconsistent reporting by two States somewhat modified the true picture.

From 1946 to 1950, the number of medical and psychiatric social workers more than doubled. The percent of growth occurring for this class of personnel was far larger than that shown for any other group. The increased employment of nutritionists was also notable, the respective increase over the five-year period amounting to 69 percent. Health educators, with a 41 percent increase, were in third place. Despite the upward trend in employment of social workers, nutritionists, and health educators, their representation in health department staffs remained relatively small. The augmentation shown within the five years for laboratory personnel, sanitation personnel, nurses, and dentists--ranging from 15 to 33 percent--was considerably less than that shown for social workers, nutritionists, and health educators.

Composition of State Health Department Staffs

As of January 1, 1950, the full-time staffs of State health departments reached 18,941 employees. (Part-time employees whose work supplements the full-time staff in a number of States, State institutional personnel other than State personnel at rapid treatment centers, and local health department personnel are not reported in the Annual Combined Report and Plan.) Although State personnel employed for 1950 at rapid treatment centers were reported, they were not included in the over-all personnel count. Table 4 shows by State and according to classification the distribution of employees on duty as of January 1, 1950, and the number planned for fiscal year 1951.

Staffing patterns varied considerably from State to State; thus, there were great differences in the size of State health department staffs and in portion of personnel employed in various occupational groups. Approx-one-fourth of the 18,941 workers were employed in three States--New York, and Pennsylvania. The staffs of these three States, mployees reported by six other States, constituted 46 percent e. Seven States employed less than 100 full-time employees.

Table 3.--Number of Full-Time Personnel of Different Classifications Employed by State Health Departments as of January 1, 1946 through January 1, 1950, and Number Planned for Employment for Fiscal Year 1951

Personnel classification	1946	1947	1948	1949	1950	1951 (planned)
Total	16,262	17,097	17,628	18,009	18,941	20,988
Physicians	853	769	823	742	760	982
Nurses	1,740	1,747	1,842	1,848	2,000	2,246
Dentists	113	87	143	128	134	179
Sanitation personnel:						
Engineers	518	621	681	761	867	1,029
Others	1,130	1,247	1,184	1,209	1,274	1,381
Laboratory personnel	1,318	1,494	1,517	1,638	1,756	1,932
Health educators	154	169	179	202	217	284
Nutritionists	88	101	126	141	149	174
Medical and psychiatric social workers	109	132	148	206	229	296
Clerical, administrative, and fiscal personnel	6,771	7,000	7,128	7,314	7,476	8,001
Other personnel	3,468	3,730	3,857	3,820	4,079	4,484

FIGURE 2 --GROWTH IN PROFESSIONAL PERSONNEL EMPLOYED FULL TIME ON STATE HEALTH DEPARTMENT PROGRAMS DURING A FIVE-YEAR PERIOD, 1946-1950

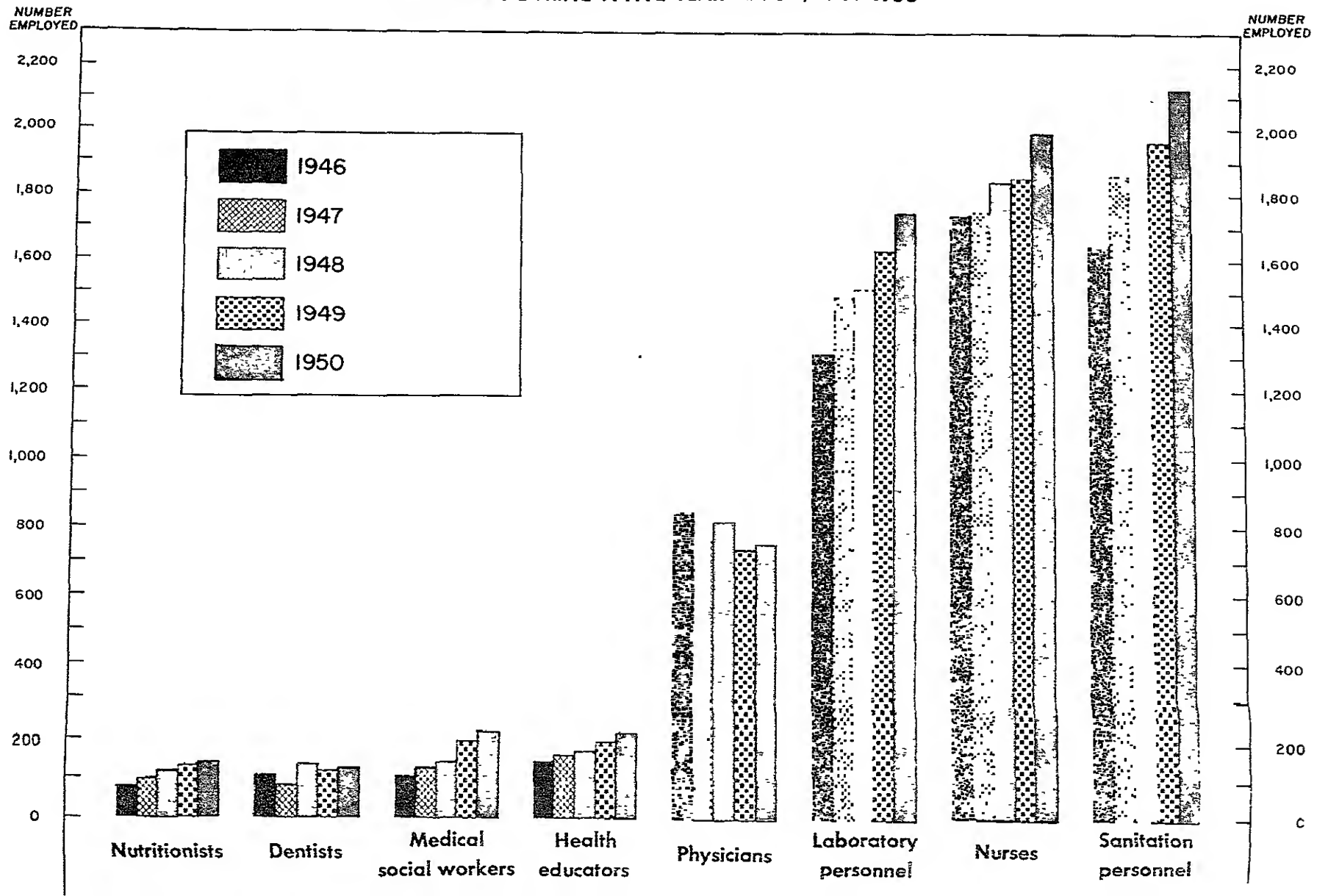


Table 4.--Number of Full-Time Personnel of Designated Classifications Employed by State Health Departments as of January 1, 1950, and Number Planned for Fiscal Year 1951[1/]

State	Total		Physicians		Nurses		Dentists		Graduate engineers		Sanitarians		Laboratory personnel		Health educators		Nutritionists		Medical and psychiatric social workers		Statisticians		Clerical, administrative, and fiscal personnel		Maintenance, service, and custodial workers		Other personnel	
	1950	1951	1950	1951	1950	1951	1950	1951	1950	1951	1950	1951	1950	1951	1950	1951	1950	1951	1950	1951	1950	1951	1950	1951	1950	1951	1950	1951
Totals	18,941	20.988	760	982	2,000	2,246	134	179	867	1,029	1,274	1,381	1,756	1,932	217	284	149	174	229	296	162	185	7.476	8,001	2,232	2,304	1,685	1,995
Alabama	445	474	7	8	7	8	1	1	23	23	15	15	44	49	2	2	1	1	2	3	2	3	150	155	157	160	34	46
Arizona	68	77	2	5	3	3	-	-	3	4	1	1	8	8	3	3	0	1	1	2	1	1	34	35	3	3	9	11
Arkansas	185	202	6	6	8	10	-	-	11	14	12	12	11	14	2	9	4	5	-	-	-	-	95	103	12	12	18	17
California	790	881	36	42	21	28	3	4	29	42	122	139	62	62	7	8	5	5	7	7	29	30	336	356	47	48	86	110
Colorado	125	133	6	8	6	6	1	1	4	9	12	12	9	8	2	2	1	1	5	5	1	1	57	59	4	4	17	17
Connecticut	375	421	21	27	26	36	2	2	16	16	2	2	62	65	4	4	4	4	15	22	6	6	155	166	36	37	26	34
Delaware	126	140	7	9	36	39	1	1	1	1	7	7	7	7	1	1	1	1	2	2	1	2	39	44	8	9	15	17
Dist. of Columbia	661	712	26	34	145	145	9	12	4	7	64	89	24	24	3	3	1	2	29	32	3	4	170	185	105	102	58	73
Florida	392	431	13	17	9	10	1	3	22	25	6	6	55	65	9	9	1	2	-	-	2	2	142	145	74	79	58	68
Georgia	564	825	19	30	33	67	1	4	28	41	12	21	86	134	8	26	5	12	2	16	3	4	230	295	51	59	82	114
Idaho	61	65	3	3	2	3	0	1	5	6	2	2	5	5	1	1	1	1	1	2	1	1	32	32	-	-	8	8
Illinois	654	670	17	21	41	42	5	6	43	44	12	12	83	85	5	9	5	5	-	-	5	5	326	326	62	62	50	53
Indiana	395	413	11	12	18	20	3	3	41	44	41	41	46	50	13	15	5	5	-	-	5	5	119	125	47	47	46	46
Iowa	218	244	9	13	23	27	1	1	23	29	8	8	23	24	3	3	1	2	-	-	3	4	106	112	4	4	14	17
Kansas	189	207	8	13	9	11	3	3	14	16	7	7	15	15	4	6	1	1	1	-	2	2	77	83	10	11	38	39
Kentucky	337	373	6	6	11	8	3	3	8	10	9	13	13	15	4	8	4	4	5	10	2	1	177	195	46	51	47	49
Louisiana	377	422	12	15	12	19	1	2	8	11	31	38	53	58	4	7	2	2	8	10	2	2	179	182	43	45	22	31
Maine	176	195	7	9	49	54	0	1	4	5	15	16	15	16	1	1	1	2	2	4	-	-	69	73	2	2	11	10
Maryland	326	371	13	14	13	16	1	1	10	13	12	13	69	75	1	1	4	4	1	4	9	10	131	149	32	35	30	36
Massachusetts	643	643	39	44	26	26	3	3	33	34	28	28	108	108	12	12	9	9	15	14	6	6	250	247	74	74	40	38
Michigan	549	578	14	19	15	17	2	4	26	28	0	1	89	95	8	9	5	5	1	1	4	4	163	169	197	200	25	26
Minnesota	320	363	11	13	18	25	2	2	28	30	1	1	34	47	12	15	1	1	3	3	1	2	152	161	17	17	40	46
Mississippi	296	332	15	14	8	12	-	-	12	13	28	28	17	18	3	4	6	11	3	3	1	1	140	153	41	43	22	32
Missouri	232	331	6	18	35	35	3	13	17	33	22	29	23	35	3	9	1	2	0	1	-	-	95	122	21	22	6	12
Montana	77	84	4	7	6	6	1	1	7	9	3	3	10	10	2	2	-	-	1	1	-	-	34	34	-	-	9	11
Nebraska	109	123	4	4	4	6	1	1	5	7	1	3	10	12	2	3	3	3	-	-	0	1	61	61	4	4	14	18
Nevada	40	51	1	2	10	15	3	3	1	2	3	4	5	6	1	1	-	-	-	-	-	-	14	15	-	-	2	3
New Hampshire	110	120	5	5	20	22	1	1	7	8	9	9	15	15	0	1	1	1	1	1	2	2	39	44	1	1	9	10
New Jersey	462	527	15	21	64	73	1	1	13	19	29	29	38	41	1	1	1	2	0	1	4	4	238	273	23	24	35	38
New Mexico	115	121	18	17	8	8	-	-	4	6	2	3	12	13	1	1	1	1	2	2	-	-	48	50	6	9	11	11
New York	1,321	1,480	70	118	98	121	4	4	46	51	30	39	130	143	6	7	8	10	1	2	19	24	594	610	266	293	49	58
North Carolina	339	381	11	19	11	16	11	16	16	18	18	17	40	42	6	7	7	9	7	10	4	4	152	169	17	17	39	37
North Dakota	86	86	1	2	4	4	1	1	8	8	0	1	10	9	2	2	1	-	-	-	1	1	41	41	4	4	13	13
Ohio	287	362	8	14	13	13	5	4	33	37	7	8	29	42	2	6	6	8	-	-	2	2	141	172	20	25	21	31
Oklahoma	212	233	5	8	8	14	2	2	14	19	14	16	29	32	4	4	3	3	1	1	4	5	84	84	23	22	21	25
Oregon	154	170	9	11	9	10	1	1	11	12	15	17	12	13	2	4	1	1	1	1	4	4	71	76	5	5	13	15
Pennsylvania	1,284	1,338	33	33	275	283	12	12	122	128	171	177	58	60	13	13	8	9	1	1	2	2	524	551	32	32	33	37
Rhode Island	188	196	11	12	37	38	1	1	5	5	15	15	25	25	-	-	1	2	2	2	1	2	68	70	13	13	9	10
South Carolina	247	267	8	12	23	27	4	6	10	13	15	15	15	16	9	10	3	4	4	4	-	-	119	121	10	10	27	29
South Dakota	66	82	1	4	5	10	1	1	6	9	4	3	5	7	0	1	-	-	1	1	1	2	31	32	3	3	8	9
Tennessee	437	519	20	27	38	48	5	5	20	25	11	12	57	64	1	1	1	-	3	4	5	6	154	201	48	40	71	86
Texas	466	515	12	15	12	17	4	6	35	39	41	43	59	61	3	4	1	1	1	3	1	1	197	202	49	61	51	62
Utah	188	207	7	11	84	84	1	1	5	7	9	12	12	13	2	4	1	1	1	2	0	1	55	58	7	7	4	6
Vermont	115	132	3	5	42	44	-	-	5	6	4	5	13	15	-	-	2	3	7	9	0	1	35	40	2	2	2	2
Virginia	331	379	16	22	21	23	12	21	12	18	23	24	22	24	2	2	2	5	1	3	5	6	191	205	-	-	24	26
Washington	141	143	8	10	5	7	1	1	8	9	8	8	13	12	1	1	1	1	5	4	1	1	72	73	2	2	16	14
West Virginia	179	188	5	5	8	8	0	3	6	6	1	1	24	23	3	3	4	4	6	6	-	-	79	84	18	17	22	25
Wisconsin	254	302	11	21	20	22	1	1	23	35	1	2	16	20	7	10	5	6	-	-	2	2	119	133	1	1	46	49
Wyoming	31	38	3	3	1	1	0	1	3	4	2	3	2	2	1	1	-	-	1	1	-	-	15	18	1	1	2	3
Alaska	175	197	11	15	43	48	4	3	6	6	8	9	11	13	5	4	3	1	2	2	2	2	59	63	15	22	6	7
Hawaii	487	499	13	15	33	38	1	1	6	7	88	89	20	21	1	1	1	1	13	13	2	2	128	128	15	16	106	107
Puerto Rico	2,257	2,439	121	129	385	416	8	8	16	17	242	260	94	86	18	20	7	9	59	78	10	13	659	691	422	414	212	296
Virgin Islands	279	306	12	14	79	95	2	2	1	1	6	8	7	9	1	1	1	1	1	2	1	1	30	30	128	133	8	9

1/ Excludes State personnel reported in rapid treatment centers.

The clerical, administrative, and fiscal group of workers constituted approximately 40 percent of the total staff. Maintenance, service, and custodial workers, reported separately for the first time in the Report and Plan for fiscal year 1950, and "other personnel" accounted for 21 percent of the aggregate. The "others" group was composed largely of X-ray technicians, other technical personnel for whom classification was not specified, and venereal disease investigators.

Eleven percent of the 18,941 employees were nurses. The proportion of nurses employed on State staffs varied considerably among the individual States. Similarly, the ratio of physicians, laboratory personnel, engineers, and sanitarians differed widely from State to State. It was obvious in some States that State medical, nursing, and sanitation staffs were compensating for personnel deficiencies in local health departments. State health departments rendering direct local health services employed a relatively high percentage of nurses and sanitation workers.

The need for additional medical personnel continued acute. Establishment of new programs has contributed to the shortages existing in medical directors. Nearly 40 percent of the 760 physicians serving full time in State health departments as of January 1, 1950, were reported by five States. Physicians employed per State ranged from one (Nevada, North Dakota, and South Dakota) to 121 (Puerto Rico), with a median of 11. In many States one physician was reported as directing several programs.

Personnel Assignments by Activity, 1950 and 1951 (Planned)

A true picture of personnel growth from 1946 to 1950 by activity cannot be shown in all instances because of changes made in the reporting of State personnel located outside central headquarters, including State health district personnel. Personnel serving in outside areas were reported as a group prior to 1949 under "State personnel outside central office." However, beginning with that year the States were instructed to allocate such employees to the specific activity in which they were engaged, rather than reporting them as a group, so that a more inclusive picture of program staffing could be obtained. Thus, for certain individual programs large increases in personnel employed as of January 1, 1949, were reflected. Those employees performing general public health work were reported under "Local health administration."

The following year further change was made in the reporting of personnel to provide a separate count of workers employed in State health districts as of January 1, 1950. This change resulted in a further shift in reporting of personnel for those States having State district organization. The most conspicuous shifting was noted in Puerto Rico, which has a very sizable number of employees on the staff assigned to specific programs but serving in State health districts. Nationally, therefore, a decrease in personnel was reflected for several programs.

In view of the above, assignment of personnel by program activity is shown in table 5 only for 1950 and as planned for fiscal year 1951. Included

Table 5.--Number of Full-Time Personnel of State Health Departments Assigned to Designated Activities as of January 1, 1950, and Number Planned for Fiscal Year 1951[1/]

Activity	Total		Physicians		Nurses		Dentists		Graduate engineers		Sanitarians		Laboratory personnel		Health educators		Nutritionists		Medical and psychiatric social workers		Statisticians		Clerical, administrative, and fiscal personnel		Maintenance, service, and custodial workers		Other personnel	
	1950	1951	1950	1951	1950	1951	1950	1951	1950	1951	1950	1951	1950	1951	1950	1951	1950	1951	1950	1951	1950	1951	1950	1951	1950	1951	1950	1951
Totals	18,941	20,988	760	982	2,000	2,246	134	179	867	1,029	1,274	1,381	1,756	1,932	217	284	149	174	229	296	162	185	7,476	8,001	2,232	2,304	1,689	1,936
General administration	679	755	76	91	1	1	1	1	8	8	-	-	0	6	1	1	1	1	4	10	9	11	385	434	165	164	28	27
Personnel administration	243	269	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	1	1	217	236	12	15	12	16
Accounting and financing	855	894	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	721	755	122	130	12	9
Training	41	50	3	4	8	11	0	1	3	3	5	6	1	1	2	2	-	-	1	1	0	1	16	17	1	1	1	2
Health education	394	458	4	5	1	2	-	-	-	-	-	-	-	-	141	179	5	5	-	-	-	-	163	178	12	13	68	76
Local health administration	398	420	51	63	35	38	-	-	10	12	29	29	-	-	1	1	-	-	5	7	5	6	231	234	19	19	12	11
State health district personnel	2,295	2,551	166	210	694	743	6	12	91	104	296	322	19	3	15	29	13	15	43	46	-	-	533	582	250	262	159	223
Vital records	1,706	1,761	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	95	104	1,535	1,567	29	41	46	47
Laboratory services	3,252	3,516	45	56	5	5	-	-	1	1	1	1	1,448	1,621	-	-	1	1	-	-	-	-	653	680	1,056	1,110	42	41
Public health nursing	898	973	0	1	752	820	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	144	149	1	1	0	1
General communicable disease control	399	430	52	57	11	14	-	-	-	-	78	84	34	39	-	-	-	-	1	1	5	5	174	184	19	18	25	28
Tuberculosis control	973	1,073	77	94	58	66	-	-	1	1	1	1	14	18	7	9	-	-	8	14	5	9	414	477	25	26	333	358
Venereal disease control	602	656	39	57	55	58	-	-	-	-	-	-	18	16	7	7	-	-	4	4	9	8	252	271	20	23	199	212
Sanitation services	2,475	2,716	-	-	-	-	-	-	592	713	808	882	102	111	2	2	-	-	-	-	-	-	520	544	207	205	244	259
Heart disease control	47	98	8	18	5	12	-	-	-	-	-	-	0	1	6	9	0	1	0	1	2	4	22	46	-	-	4	6
Diabetes control	13	14	3	4	2	2	-	-	-	-	-	-	2	2	1	1	-	-	-	-	-	-	4	4	-	-	1	1
Industrial hygiene	377	405	26	31	25	27	1	1	125	142	20	19	67	71	-	-	-	-	-	-	1	1	88	90	2	3	22	20
Maternity-child (preschool) health services	603	709	88	122	141	180	2	2	1	0	-	-	1	1	7	10	15	21	11	15	3	3	259	268	59	42	22	45
School health services	106	127	9	15	40	44	1	1	1	1	-	-	-	-	3	4	2	3	0	3	1	1	41	45	2	2	6	9
Crippled children's services	515	606	32	41	64	77	-	-	-	-	-	-	3	3	-	-	-	-	31	40	1	1	234	253	24	16	126	175
Dental services	303	378	1	1	5	6	120	158	-	-	-	-	3	2	9	13	-	-	-	-	-	-	66	72	5	4	94	121
Nutrition	143	163	2	3	2	2	-	-	-	-	-	-	2	2	1	1	107	122	-	-	-	-	27	29	1	1	1	3
Cancer services	278	314	27	35	15	19	-	-	-	-	-	-	13	13	7	5	-	-	5	3	12	14	179	203	4	5	16	17
Mental hygiene[2/]	177	244	21	30	5	13	-	-	-	-	-	-	-	-	1	5	-	-	51	75	-	-	66	79	1	1	32	41
General medical care	259	295	8	12	47	62	-	-	-	-	-	-	3	0	-	-	2	2	17	20	0	1	54	60	118	123	10	15
Hospital survey and planning	249	308	5	6	15	27	-	-	29	37	0	1	-	-	2	2	2	2	-	-	4	4	138	163	2	2	52	54
Miscellaneous activities	661	805	16	24	14	17	3	3	5	7	36	36	26	22	2	2	1	1	18	56	9	11	317	381	66	77	116	168

1/ Excludes State personnel reported in rapid treatment centers.

2/ Personnel of other State agencies assigned to mental hygiene activities.

in this table, as well as in the preceding tables, are employees of the central and branch offices of the State health departments and U. S. Public Health Service personnel on loan to States.

As stated above, staff members of State health districts engaged in general health work as of January 1, 1950, were reported separately under "State health district personnel." Other State personnel with headquarters outside the central office were allocated to the specific activity in which they were engaged.

In reporting the assignment of full-time persons to health activities, a few States did not furnish a breakdown for each activity, but grouped personnel according to the program or service for which the organizational unit in which they were employed was primarily responsible. All workers engaged in sanitation services have been combined under that activity title because a number of States did not report separately the employees assigned to specialized sanitation functions. In instances where one employee served two or more programs, such employee was arbitrarily assigned to one of the functions which he served.

The proportion of the workers engaged in the several functions as of January 1, 1950, conformed quite closely to the pattern of previous years. Employees assigned to laboratory services, sanitation services, and vital records constituted more than one-third of State health department personnel. Sizable staffs were also assigned to tuberculosis control, public health nursing, and maternity-child health services. Approximately 14 percent of the State employees were engaged in local health administration; the bulk of these workers were reported as State health district personnel. Puerto Rico, with a State staff that renders many direct health services, accounted for 60 percent of the State district employees. Of the activities specified in table 5, diabetes control had the smallest number of workers, with only 13 employees assigned to the program on a full-time basis.

For 1951 an increase in personnel amounting to 11 percent was contemplated. All States except two made plans to strengthen their staffs. The percent of increase proposed was particularly outstanding in Georgia and Missouri, the respective percentages amounting to 46 and 43. Other States planning sizable increases percentage-wise included Nevada, Ohio, South Dakota, and Wyoming, the respective increases exceeding 20 percent. Higher percentages of growth were proposed for dentists, health educators, medical and psychiatric social workers, and physicians than for other classes of professional employees.

Personnel projections for the fiscal year 1951 displayed rather sizable increases in staff for certain programs. In heart disease control, planned growth in staff exceeded 100 percent. Nevertheless, contemplated personnel assignments to this program on a full-time basis provided for only 98 employees.

Next largest relative growth in personnel was planned for mental hygiene, for which a 38 percent increase was anticipated. State health departments alone expected to assign 244 full-time workers to this program in 1951,

representing 67 additional employees. State mental health authorities, other than health departments, reported significantly larger staffs for mental hygiene than did health departments. These other State agencies indicated the assignment of 516 employees to the program as of January 1, 1950, and proposed to increase this number to 637 during 1951. Together mental hygiene personnel of State health departments and of other State agencies totaled 693 for 1950; planned staff for 1951 totaled 881. (Table 43, page 123, includes personnel, by type, reported by other State agencies engaged in the mental hygiene program.)

Significant staff increases were also proposed for dental services and for hospital survey and planning, the increases amounting to approximately 25 percent.

As mentioned previously, if all States were successful in filling the positions planned for fiscal year 1951, an increase in State staffs amounting to 11 percent would result. Commonly, however, only a small number of States attain the staffing goals established. It is not infrequent for States to exceed the quota planned for individual personnel categories for the forthcoming year; generally, however, over-all staff employed is from 10 to 15 percent less than contemplated.

A comparison has been drawn based on the number of workers in various classifications contemplated by each State for 1950--as shown in the previous year's Combined Report and Plan--and the number of employees actually on duty as of January 1, 1950. By making the comparison on a State by State basis, personnel employed by some States in excess of the number planned, did not compensate for those States failing to employ the number contemplated.

Table 6 sets forth the number of positions planned for fiscal year 1950 in each category and the number of positions unfilled at the end of the first six months of the fiscal year. Greatest employment deficiencies were shown in dentists and physicians. The percentage of total unfilled positions was somewhat lower than that shown for previous years. This situation is due partially to more realistic personnel planning on the part of State health officers.

The following section gives consideration to selected programs, individually, discussing State participation in specific program functions and staff assignments to each program included.

Table 6.--Number and Percentage of Positions Unfilled as of January 1, 1950, Based on Number of Positions Planned for Fiscal Year 1950

Personnel classification	Number of positions		Percent of planned positions unfilled
	Planned fiscal year 1950	Unfilled as of January 1, 1950	
Total	20,217	1,992	9.9
Physicians	1,009	268	26.6
Nurses	2,115	177	8.4
Dentists	189	59	31.2
Graduate engineers	968	131	13.5
Sanitarians	1,345	117	8.7
Laboratory personnel	1,829	137	7.5
Health educators	265	60	22.6
Nutritionists	176	32	18.2
Medical and psychiatric social workers	276	60	21.7
Clerical, administrative, and fiscal personnel	7,868	480	6.1
Maintenance, service, and custodial workers	2,370	245	10.3
Other personnel	1,807	226	12.5

PARTICIPATION IN SELECTED PROGRAM FUNCTIONS OF STATE HEALTH DEPARTMENTS

All program schedules of the Annual Combined Report and Plan providing a description of program activities are represented in the discussion and accompanying tables of this section except those dealing with administrative functions, exclusively, the general medical care schedule which was completed by a relatively small number of States, and the schedule for crippled children's services. The programs, presented according to schedule sequence, are as follows:

Health education
Local health administration
Vital records
Laboratory services
Public health nursing
General communicable disease control
Tuberculosis control
Venereal disease control
Control of vector diseases
Sanitation of public water supplies, sanitation of bathing places, and plumbing control
Water pollution control
General sanitation
Sanitation of milk, shellfish, and food establishments
Heart disease control
Diabetes control
Industrial hygiene
Maternity, infant, and child (preschool) health services
School health services
Dental services
Nutrition
Cancer services
Mental hygiene

Not all items of the program schedules are included in this analysis. Selection of items was limited in the majority of programs to those activities which had been carried on the schedule for all five years. Revisions made from year to year in the various program schedules restricted appreciably the selectivity of items for inclusion. For some programs, additional items were chosen regardless of the number of years they had appeared on the program schedule, primarily because they represented broadening of the basic program and progression into enlarged fields of service. It is emphasized that the items featured were not selected on the basis of essentiality and are not wholly representative of the elements most commonly encompassed in any individual program.

Review of the total schedule for any one program disclosed striking variation from State to State in the items included in the different State programs. A defined pattern does not exist for any program.

A brief discussion follows of each program schedule included in this analysis. Supplementary data will be found in the tables immediately following the program discussion. The tables reflecting participation in selected activities have been set up to show the number of States participating in selected schedule items, the number reporting increase in performance as compared to the previous year, and the number of program directors placing major emphasis on the items. In the assignment of emphasis, the program director gives consideration to each item included in his particular program schedule. The method of classification used by the State health

officer in describing the over-all health department operations, discussed in the preceding section, is likewise followed by the individual program directors. Classification of activity is based upon the director's opinion of his program as it actually operates and is derived by comparing each item of the program with all other component elements. The fact that two States give the same classification to any single item does not imply equal performance.

Unfortunately, for those selected activities which in some States were performed independently by an organizational unit of the health department other than the reporting unit, the emphasis was not classified by the respective program director reporting. This situation prevailed most commonly for those health activities, such as nursing, laboratory, and health education services, which cut across many programs but are administered exclusively by a central unit. Therefore, the number of States appearing in the tables under "Number of States Assigning Major Emphasis to Activity" may be considered as the minimum number.

Conditions described in the preceding section--The Comprehensive Health Program of State Health Departments--apply also to the personnel summaries included here for individual programs. The personnel table shown for each activity reflects only the number of each professional classification assigned specifically to that program. Additional personnel of a particular classification significant to the operation of the program may be assigned elsewhere in the health department. For the total number of employees of any specific professional category, reference should be made to table 5, page 13, of the preceding section which shows the distribution of all classes of personnel among the various activities.

Health Education

State health departments are placing increased emphasis on the development of health educational programs which will acquaint people with good public health practices and stimulate interest in good public health services. Successful operation of this program depends largely upon the cooperation of all organizations interested in health. It needs as a leader one educated in the special skills of health education who can act as a stimulator and coordinator of all health education activities within a State.

Increased emphasis in public health education over the past few years was partially evidenced by the additional State health departments which reported public health education as a separate division, section, or bureau of their organizational structure. There were 44 State health departments in 1950 which reported public health education as a separate entity in their organizational pattern, while in 1946 there were only 32. In 1950, there were eight additional States in which health education was not administered by a separate organizational unit in the health department, but was carried out by full-time personnel assigned to health educational activities and operated through and with the other specialized programs. Only one State reported that a formal program of health education had not as yet been instituted.

Public Information

The preparation, selection, assembly, and distribution of educational materials long has been termed one of the most significant projects in the health education field, and in 1949 and 1950 all 53 States devoted considerable time to its performance. (See table 7.) This activity has been assigned major emphasis in the health education program of most States with 35 States giving it major emphasis in 1950. During the same year there were 42 States which reported growth or expansion in this activity, which was the largest number for any reporting year.

Cooperative Projects

Cooperation in the field of health education has three major parts, namely: Coordinated planning with all State-wide organizations concerned with health, joint development of programs with State departments of education, and promotion of community-wide health education programs.

In 1950 all 53 States reported a program of coordinated planning with all State-wide organizations concerned with health. This cooperation makes available an exchange of materials such as films, visual aids, and reference books, and uproots hidden resources, all of which contribute toward establishing a feeling of cooperation through sharing in a concentrated effort. There has been expansion generally in this activity; 22 States reported expansion in 1946, and 34 reported growth in 1950. On the other hand, four fewer States assigned this activity major emphasis in 1946 than in 1950.

Joint development of programs with State departments of education is an important part of the health education program since the schools offer almost unlimited resources as to the size of health audience. Health education not only reaches the school age but other ages as well, because the school serves as an intermediary between the health department and the home. In 1950 all the States reported joint development with State educational departments, of health education policies, programs, and materials for the schools. While there was a slight decrease in number of States contemplating expansion in 1951, over half the States reported growth in this cooperative project since 1947, and between 15 and 22 States assigned it major emphasis during the five years covered by this study.

Fifty State health departments in 1950 were conducting extensive community-wide health educational programs designed to enlist the participation and coordination of all people, organizations, and resources in determining needs and developing action programs. About two-thirds of the States reported expansion in this activity from year to year, and plans for 1951 reflected an increase of six States over the 32 which reported expansion in 1950.

Educational Opportunities for Professionals

Fiscal year 1949 was the peak year in the five-year span presented here as 49 States made provisions or arrangements for educational opportunities for professional personnel other than members of health departments. These opportunities were made available by 46 States in 1950 as compared with 36 States in 1946. Although half the States participating reported expansion in this activity for as many as three years, not more than a dozen States assigned it major emphasis in any year.

Promoting Employment of Local Health Educators

Experience shows that health educators assigned to local health units do much to acquaint the people with the health services which are available in their community. The State health department assists in this effort through promotion of the employment of trained, qualified health educators to work in local health departments. By 1950 there were 38 State health departments encouraging the assignment of health educators to local units, an increase of 13 States over 1946. The peak year in the number of States reporting expansion in this activity was 1947 when 22 States reported growth over the previous year. By 1950 only 17 States reported expanded programs, however, an increase to 24 States was planned for the following year.

Evaluation of Program

Some attempt has been made by the various States to evaluate their health education programs to see if there actually were any changes in health behavior in individuals as a result of these programs. Less than half the States have engaged in this type of analysis so far; for 1951, 28 States planned to make evaluations, or four more than in 1950. Few States have given major stress to this phase of the program.

Personnel

Along with the increase in the number of States initiating health educational activities came a sizable expansion in the number of full-time personnel assigned to this program. The total number of employees engaged in health education activities increased from 246 in 1946 to 394 by 1950. Of this group, health educators numbered 141 in 1950--an increase of 52 over the number employed in 1946.

In addition to the health educators recorded in table 8 there were, in 1950, 76 such employees assigned full-time to 19 other programs within the State health departments. Fifteen of these health educators were working in State district activities, nine in dental services, and seven in each of the following four activities: cancer; venereal disease; tuberculosis; and maternity, infant, and child health services. Also, six health educators carried on the educational aspects of the heart disease programs. The remaining 18 health educators conducted educational activities in 13 other State health department programs.

Projections for 1951 indicated an increase of 16 percent over 1950 in the number of employees to be assigned to health education programs. This means an increase of 64 persons, 38 of whom would be health educators.

In 1950, 49 State health departments had assigned full-time personnel to their health educational program as compared with 48 in 1948. For 1951, 50 State health departments planned to employ health education personnel. The health educator in one State was expected to return from a training program and reactivate a program discontinued during the previous year.

Table 7.--Participation by State Health Departments in Selected Health Education Activities for Designated Years

Activity	Number of States																
	Participating in activity						Reporting expansion over previous year						Assigning major emphasis to activity				
	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950
Public Information																	
Preparation, selection, assembly, and distribution of educational materials	49	51	51	53	53	53	32	28	34	39	42	37	32	31	34	29	35
Cooperative projects through:																	
Coordinated planning with all State-wide organizations concerned with health	48	41	47	52	53	53	22	28	34	32	34	33	19	13	14	9	15
Joint development with State department of education of health education policies, programs, and materials for the schools	48	51	51	52	53	53	22	27	31	28	27	24	15	21	22	18	16
Promotion of community-wide health education that enlists the participation and co-ordination of all people, organizations, and resources in determining needs and developing action programs	44	45	48	49	50	50	34	32	34	32	32	38	23	17	20	19	21
Arranging educational opportunities for professional personnel other than health department employees	36	42	46	49	46	46	22	21	20	23	18	16	7	12	3	4	5
Promoting employment of trained, qualified health educators by local health departments	25	33	35	36	38	41	15	22	17	13	17	24	5	7	5	4	3
Evaluation of Program																	
Study of changes in health behavior	24	19	22	24	24	28	12	10	10	11	13	13	3	0	1	0	0

Table 8.--Full-Time Personnel Assigned to Health Education Programs of State Health Departments for Designated Years

Personnel classification	Number employed					Number planned
	1946	1947	1948	1949	1950	1951
Total.....	246	298	342	375	394	458
Health educators.....	89	104	111	130	141	179
Physicians.....	4	4	4	5	4	5
Nutritionists.....	4	3	1	2	5	5
Clerical, administrative, and fiscal.....	121	137	161	164	163	178
Others.....	28	50	65	74	81	91

Local Health Administration

A study of selected comparable items of the Report and Plan schedule of all States for supervision and promotion of local health services indicated that most State health departments are alert to the importance of strong, adequate, and well-organized local health units. In many States, however, the extension of local health services and the integration of local programs with those of the State health department present numerous problems that are not easily overcome.

One of the requisites for solution of the problems involved is an intimate knowledge of existing conditions and circumstances in the local areas. Through field studies, reports, and staff conferences, many State health departments are analyzing local health needs and are aggressively approaching the task of improving and establishing local health units. Some factors contributing to the absence of full-time local health units are: Lack of local interest or appreciation of public health; no enabling legislation; population of areas too small; financial resources insufficient to support a health department; and unavailability of trained public health personnel. State health departments in many States have been successful in overcoming these obstacles through motivation, conduct of training programs, financial assistance through grants-in-aid, and encouragement of the pooling of resources and personnel to form multicounty units or local health districts.

Development of health organizations for local health services varies considerably from State to State. The general organizational pattern of local government influences the plan of health organization. Since 1948 health organizations providing full-time health services to local areas have been classified for reporting purposes into the following four major classifications: Single county units, local health districts, city health units, and State health districts organized to provide actual local services. The health departments classified as single county units serve only one county, but include city-county units. In some instances, all cities within the county are served by the county health unit, while in others there are cities which have independent health departments and do not receive service from the county. Units classified as local health districts serve two or more counties or other types of local government which are formally organized as a single operating unit with control vested in local authority and directed by a full-time health officer. City health departments serve only a single city. Some States have organized district health departments, with control vested in the State, for the primary purpose of providing direct local service. These units operate as substitutes for locally administered health units, and are classified as "State health districts (actual service)." In addition, several States have organized State districts primarily for the purpose of providing supervisory and advisory services to local areas.

Figure 3 (Page 31)--Areas Reporting Full-Time Local Health Service--portrays for the year 1950 the extent of coverage of the United States by the various types of full-time organizations. A comparison of the number of full-time health organizations existing in 1946 and counties covered, with the number of organizations and counties covered in 1950, is shown in table 9.

Significant is the fact that between 1946 and 1950, there was a net gain of 407 counties with full-time local health services, the extended coverage resulting from the addition of 127 full-time organizations. Most of this increase occurred through the organization of local health districts.

More than three-fourths of the States have established an organizational unit within the State health department for supervision and promotion of local health services and for coordinating the various specialized services of the health department and directing them to local areas. For the country as a whole, few changes occurred in the organizational status of this health department function between 1946 and 1950.

Table 10 reflects participation in selected items. For the five-year period there was little variation in the number of States participating in the various functions. There was more fluctuation in the number of States reporting expansion for each year and in the number assigning major emphasis to the individual activities.

Promotional Activities

All but five States, excluding the District of Columbia, reported continuation of effort in the extension of organized full-time local health services. Two of these States have already attained 100 percent coverage of all areas in the State with health organizations providing full-time local health services. One State, Vermont, does not have any full-time local health units. Stimulation of extended coverage to unorganized areas was given major attention each year by about half the program directors; in 1950 more than one-half, specifically 29 of the 47 States, accorded major emphasis to this item.

The coordination of all public health endeavors in the community is extremely important. State directors of local health administration in the majority of States are stimulating and promoting cooperative programs between local health departments and other official and voluntary agencies. Such coordination is particularly significant in programs in the newer health fields, so that all available resources of the community can be utilized to the fullest extent, and there will not be duplication of effort.

Consultative Services

A wide variety of consultative services are made available to local health units by State health departments. In addition to arranging for supervisory or technical assistance in specialized health activities, the majority of State health departments provide supervision or advice to local units with respect to nursing and sanitation services, the development of local health councils, the adoption of suitable local health ordinances, the procurement of increased local financial support, and the development of efficient administrative practices.

Perhaps one of the most important roles of the State health department is to assist local authorities in analyzing their health needs and in

formulating plans and developing program content to meet their needs. A high proportion of the States indicated the placement of greater effort on this phase of the local health administration program during the five-year period. As many as 30 States expected to expand their services in this area in 1951. The number of program directors assigning major emphasis to this phase of activity was relatively high, the number varying from 22 to 25 within the five-year period.

It has long been recognized that a comparatively small percentage of a State's communities, with the exception of cities, can support an adequate public health program. Exclusive of the District of Columbia, Vermont, and Rhode Island, the development of a State-wide plan for providing financial assistance to local units was given consideration during one or more of the five years by all States. By 1950 approximately one-third of the States were allocating funds on the basis of an objective formula. The number of States devoting major attention to this phase of the program fluctuated considerably. A slight change in the wording of this item for the fiscal year 1950 no doubt attributed to the reduction in frequency of the assignment of major emphasis.

Staffing Assistance

Almost all State health departments give assistance to local health units in the recruitment and assignment of personnel. A comparison of data for the five-year period reveals that more States focused attention on this aspect of the local health administration program in the years immediately following the close of World War II than at any other time between 1946 and 1950. Thirty out of 50 participating States reported expansion of activity in 1946, and 22 assigned major emphasis to this phase of the program. In 1947 a slightly higher proportion indicated the placement of major stress on this item.

Most State health departments have taken a very active part in providing opportunities for further professional development of local health workers and for keeping workers informed of new advancements. In-service training has proved invaluable in many health programs. Personnel with little or no public health experience have acquired sufficient knowledge and experience through supervised observations, institutes, conferences, work shops, short courses, etc., to undertake responsibilities in new public health fields. The number of States placing major emphasis on in-service training increased appreciably in 1949 and 1950.

Personnel

A true comparison of the number of personnel assigned to the central local health administration program of State health departments cannot be made for all years of the five-year period. This is due to a change in 1949 in the reporting of personnel serving on State health district staffs and other State personnel with headquarters outside the central office and performing general health functions. All workers with such assignments were

reported for 1949 under "Local health administration," thereby altering the personnel picture for this program to the extent that the data were incomparable with other years and are not included in the personnel summary, table 11. For 1950, State health district staffs were reported separately; but those employees with headquarters away from the central office performing general services were again reported in the local health administration program. This fact accounts for some of the increase in personnel shown for this program between 1948 and 1950.

The distribution of personnel in the various classifications remained fairly constant during the five-year period. Additions made to the staff in a few States were reflected in the over-all totals for each year, except for the year 1947; between 1946 and 1947 there was a slight loss of personnel.

Plans for 1951 indicated that more physicians well be engaged in the supervision and promotion of local health services than were assigned to this function in any prior year. As many as 40 States expected to have at least one full-time physician on duty in this program.

Table 9.--Growth Between 1946 and 1950 in Number of Full-Time Health Organizations Rendering Local Health Service and Number of Counties Included

Class of health department organization	Number of full-time health organizations		Difference	Number of counties included		Difference
	1946	1950		1946	1950	
Total health organizations rendering local health service	1,174	1,301	127	1,327[1/]	1,734[1/]	407
Local health departments	1,115	1,236	121	1,167	1,451	284
Single county (including city-county)	(652)	(648)	(-4)	(652)	(648)	(-4)
Local health district	(194)	(320)	(126)	(505)	(793)	(288)
City	(269)	(268)	(-1)	(10)	(10)	(0)
State health districts rendering direct local service	59	65[2/]	6	160	283	123

1/ Includes 10 counties which are served by city health departments, the counties being conterminous with their respective cities.

2/ In addition there were 47 State health districts including 354 counties with supervisory and advisory service only.

Table 10.--Participation by State Health Departments in Selected Local Health Administration Activities for Designated Years

Activity	Number of States																
	Participating in activity						Reporting expansion over previous year						Assigning major emphasis to activity				
	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950
Promotional activities																	
Promotion of the extension of organized full-time local health services	49	49	47	47	47	47	28	28	30	28	26	26	27	24	25	23	29
Promotion of cooperative programs between local health departments and other official and voluntary health agencies	46	47	46	46	45	45	17	18	15	15	14	19	3	4	5	5	6
Promotion of employment of local personnel under a merit system and interpretation to local jurisdictions of State requirements with respect to personnel employed	41	42	43	45	45	45	10	16	17	15	15	17	7	4	5	4	7
Consultative services																	
Assistance to local health authorities in analyzing health needs, formulating annual plans, and developing program content	51	51	50	49	49	49	24	30	29	24	28	30	24	25	22	22	23
Development of a specific State-wide plan for financial assistance to local health units	48	48	46	45	45	45	20	19	15	21	19	17	25	25	22	16	11
Arrangement for supervisory or advisory service in specialized health activities	51	51	50	51	51	51	26	27	21	20	21	24	18	20	18	26	21
Staffing assistance																	
Recruitment and assignment of personnel for local health units	50	49	48	48	48	48	30	29	28	24	21	18	22	24	22	19	19
Provision of in-service training for local health workers	*	46	46	47	47	47	*	23	31	19	21	21	*	5	7	13	12

*Not included as an item on the Annual Combined Report and Plan schedule for this particular year.

Table 11.--Full-Time Personnel Assigned to Local Health Administration Programs of State Health Departments for Designated Years

Personnel classification	Number employed					Number planned
	1946	1947	1948	1949 1/	1950	1951
Total	255	241	315	-	398	420
Physicians	48	44	49	-	51	63
Nurses	17	13	22	-	35	38
Engineers	2	3	10	-	10	12
Sanitarians	14	16	15	-	29	29
Laboratory personnel	0	0	3	-	0	0
Health educators	1	0	6	-	1	1
Medical or psychiatric social workers	0	0	7	-	5	7
Clerical, administrative, and fiscal	157	150	175	-	231	234
Maintenance, service, and custodial	*	*	*	-	19	19
Others	16	15	28	-	17	17

1/ Data not comparable.

* Not reported as a separate class of personnel

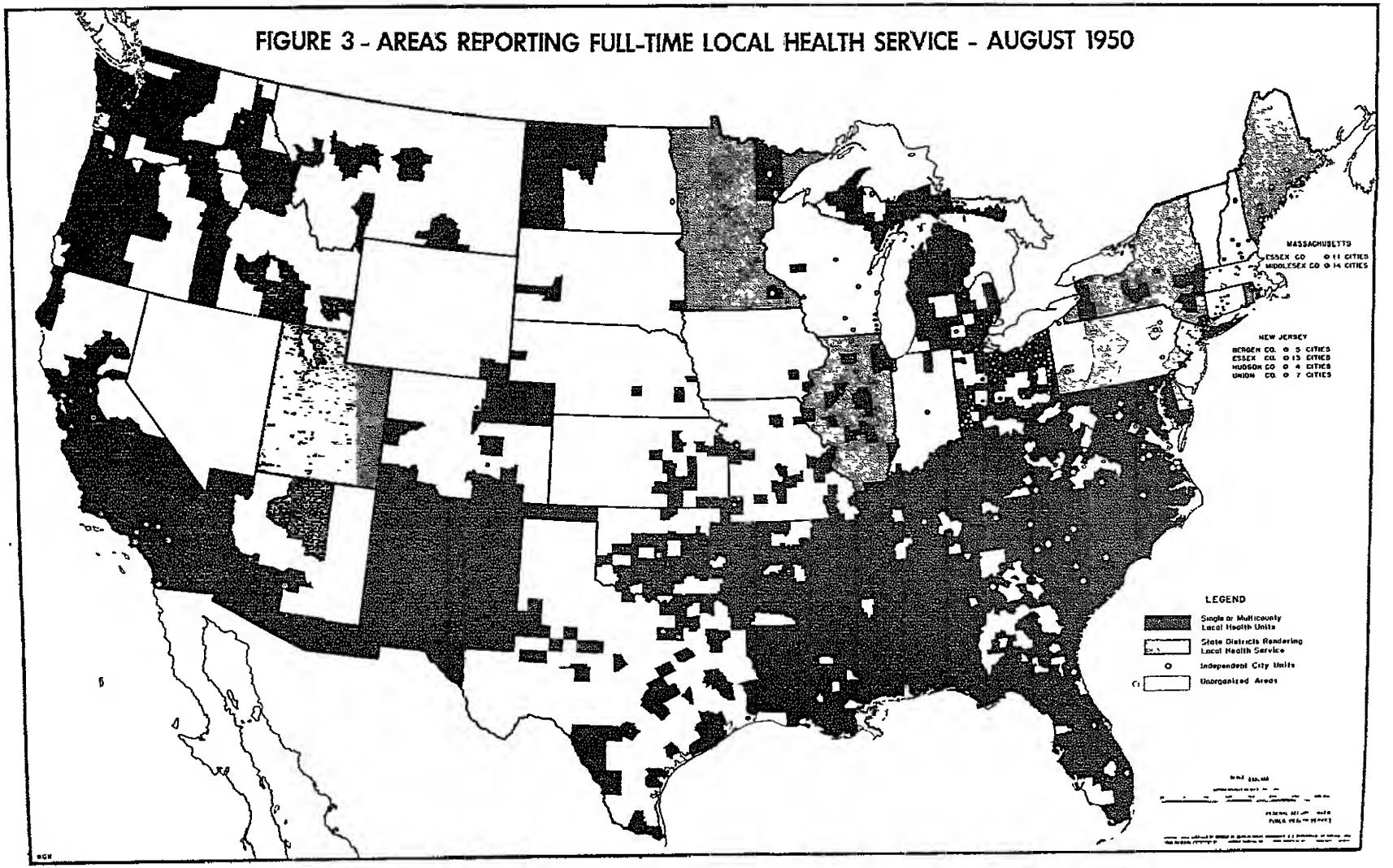


FIGURE 3 - AREAS REPORTING FULL-TIME LOCAL HEALTH SERVICE - AUGUST 1950
MASSACHUSETTS
ESSEX CO 11 CITIES
MIDDLESEX CO 14 CITIES
NEW JERSEY
BERGEN CO 5 CITIES
ESSEX CO 15 CITIES
HUDSON CO 4 CITIES
UNION CO 7 CITIES
LEGEND
Single or Multicounty Local Health Units
State Districts Rendering Local Health Service
Independent City Units
Unorganized Areas

Vital Records

Public health records are considered basic in carrying out a comprehensive public health program. The vital records program of State health departments is concerned chiefly with birth, death, and morbidity records, and, to a lesser extent with the records of marriages, divorces, and adoptions. No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring. As in modern business, statistics is the control which governs the daily operations of the health department and serves as a tool in planning and evaluating health programs.

In all States except Massachusetts, the responsibility for the collection and processing of reports of births and deaths rests with the State health department. In Massachusetts, collection of vital records is a function under the jurisdiction of the Secretary of State.

Consultative Services

During 1946 and 1947 the State health departments offered consultative services to local registrars in 38 States (table 12). Such services were pplied in 41 States during 1948 and 1949, in 42 States in 1950, and were nned in 45 States for 1951. This service does much to iron out problems ging in the collection and analysis of vital statistics. More States orted expansion of the field consultation program in 1947 and 1949 than the other years covered by this study. This part of the vital records gram is infrequently assigned major emphasis by State health departments.

As a phase of the vital records program, all but two States offered tatistical consultation to other divisions of the health department or to outside agencies during 1950. This item stands out with respect to the number of States reporting increased activity over each previous year. Thirteen ates placed major stress on this item in 1950 as compared to only one State 1946.

tistical Activities

Vital statistics are the administrative tool whereby it is possible to erpret the need for a public health program in terms of the vital events urring in local communities. During the five years covered by this analy-, vital records personnel in almost all State health departments have been piling data and preparing routine and special reports. Naturally, routine ports receive far more emphasis than do special reports in the vital rec-ls program of most States. An average of 30 States each year assigned jor emphasis to the compilation of routine reports while not more than 10 ates assigned major emphasis to the preparation of special reports during y one year.

Delayed Registration of Birth Records

During the last few years a birth certificate has become essential to our way of life. Schools require them prior to entrance, many industries require them prior to hiring an individual, and the military requires birth certificates prior to enlistment. The problem is simple if the birth certificate is on file in good order, but becomes more complex if a delayed registration must be accomplished. Exclusive of Massachusetts, all States except Hawaii provide for the filing of delayed registrations of births. The number of States assigning major emphasis to this activity decreased from 14 in 1946 to 4 in 1949, and only 5 States gave major stress to it in 1950.

Public Health Statistical Services

Other services not directly associated with vital records such as accounting, tabulating, and listing of health statistics are being provided by an increasing number of State health departments as a part of their vital records programs. These services were offered in 41 States in 1946 and were planned in 47 States for 1951. The number of States expanding this activity also increased from 15 in 1946 to 27 in 1950, with 28 planning expansion in 1951. The number of States assigning major emphasis to these services increased from 4 States in 1946 to 10 in 1950. Many of the activities falling in this category are those services performed for other divisions of State health departments through the use of tabulating equipment. More and more program directors are becoming aware of the value of tabulating equipment in the analysis of health problems.

Appropriation and Fees

Two items of information included in the vital records schedule of the Annual Combined Report and Plan but not included in table 12 were: (1) Source of appropriation for vital records programs, and (2) Are fees received for certified copies utilized for support of the vital statistics program? A review of the State plans with respect to these items showed that 23 vital records programs received their appropriations through Federal and State governments and 20 States from State governments alone. Three of the remaining States reported funds received through State appropriation as well as by the collection of fees, while three additional States listed fees in addition to State and Federal appropriations as their sources of funds. Only one State indicated the financing of vital records through a combination of Federal and local appropriations, while one other State supported its program through State and local funds.

There were 33 States which indicated that none of the fees received for certified copies made by them were used for support of the vital statistics program. Only 11 States reported that the entire fees collected reverted for use of the program, while five States placed a part of the fees at the disposal of the program.

Personnel

There were 1,706 full-time persons assigned to the vital records programs of State health departments in 1950 as compared to 1,653 reported in 1946 (table 13). An increase of 55 employees was planned in this activity for 1951. Not less than 90 percent of the employees utilized in this program during each year were classified as clerks, and the remaining 10 percent were statisticians; maintenance, service, and custodial workers; and "others." Plans were made for the assignment of 104 statisticians in this program in 1951. The decrease indicated in the category of personnel termed "others" was attributed to the fact that maintenance, service, and custodial workers were reported under "others" prior to 1949, and statisticians for the most part were also reported under "others" prior to 1950.

Table 12.--Participation by State Health Departments in Selected Vital Records Activities for Designated Years

Activity	Number of States																
	Participating in activity						Reporting expansion over previous year						Assigning major emphasis to activity				
	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950
Consultative services																	
Field consultation program with local registrars	38	38	41	41	42	45	13	21	20	22	12	20	5	6	6	7	6
Statistical consulting services to other divisions of health department or outside agencies	47	46	48	48	51	51	20	25	26	34	30	29	1	5	5	11	13
Statistical activities																	
Compilation of routine reports	50	51	51	51	52	52	24	19	24	22	23	20	35	29	32	28	29
Compilation of special reports	51	51	51	52	52	52	21	27	29	26	27	23	4	4	6	7	10
Delayed registration of birth records	50	50	49	50	51	51	7	4	9	10	9	9	14	7	5	4	5
Public health statistical services																	
Accounting, tabulating, and listing of health statistics other than vital records	41	43	42	42	46	47	15	23	19	26	27	28	4	8	9	9	10

Table 13.--Full-Time Personnel Assigned to Vital Records Programs of State Health Departments for Designated Years

Personnel classification	Number employed					Number planned
	1946	1947	1948	1949	1950	1951
Total.....	1,653	1,641	1,657	1,670	1,706	1,761
Statisticians.....	*	*	*	*	95	104
Clerical, administrative, and fiscal.....	1,581	1,567	1,568	1,554	1,535	1,567
Maintenance, service, and custodial.....	*	*	*	12	29	41
Others	72	74	89	104	47	49

* Not reported as a separate class of personnel

Laboratory Services

The scope of laboratory services performed by State health departments continues to expand. In addition to providing laboratory services for the diagnosis and control of communicable and non-communicable diseases, the laboratory program has gradually undertaken a wide variety of other activities such as provision of laboratory analyses for sanitation activities, production and purchase of biologicals, special investigations and research, and supervisory and advisory assistance to local laboratories. In many ways the effectiveness of other programs within the State health department is dependent upon services which they receive from the laboratory. Laboratory analyses guide the various program directors in planning their operations and directing their activities to those phases of the program which will produce greatest results.

Diagnostic Laboratory Services

During the five-year period, according to table 14, the diagnostic laboratory service performed for the detection of bacterial infections appeared to be the most widespread activity within the laboratory program of State health departments. In particular, all States have assumed responsibility for detection of tuberculosis and enteric and parasitic infections, and 50 States reported the analysis of blood cultures and testing for brucellosis. More than 50 States have tested for streptococcal infections each year during the entire five-year period covered by this study. There were slightly more than 40 States which reported making determinations for pneumococcal infections, but not a single State has placed major emphasis on this activity since 1948. Almost all State health departments performed tests for rabies. Since 1949, when this item was first included in the program schedule, more than 40 States reported testing for Rocky Mountain spotted fever.

Of the diagnostic laboratory services, assignment of major emphasis was most frequently noted for tuberculosis, enteric infections, and brucellosis, with by far the largest number of States placing major emphasis on tuberculosis.

Some expansion of most of these diagnostic programs was reported by a few States each year. However, only brucellosis, enteric infections, tuberculosis, and Rh typing and blood grouping showed more than 20 States expanding these functions from year to year for the period in which these items were on the schedule. The largest number of States indicating increase in performance from year to year occurred in tuberculosis testing, with more than 40 States reporting expansion in each year beginning with 1947.

Sanitation Services

The four major groups of activities performed in sanitation services within the State health department included in this study are: (1) Analysis of water samples; (2) analysis of milk samples; (3) analysis of food and drugs; and (4) analysis of air and gases.

Laboratory testing in support of the sanitation program has been an accepted public health practice for many years. By 1949 all of the States were carrying on routine bacteriological analyses of water samples. In 1949 and 1950 all but three States considered this activity of major importance, and, as might be expected, the number of States reporting expansion in this program declined from 37 States in 1949 to 31 States in 1950, and only 29 States proposed expansion in 1951. Each year more than 40 States provided special examinations of water samples. The number of States reporting expansion of this activity increased from 9 in 1946 to 22 in 1950; however, only a very few States placed major emphasis upon this phase of the laboratory program.

All but five of the State health departments provided for the bacteriological examination of milk samples since 1949. From 21 to 29 States reported expansion of this activity for the period covered by this analysis, and approximately 30 States devoted major emphasis to this phase of the laboratory program in each of the last five years. The item pertaining to the chemical examination of milk was not included in the schedule until 1949, but since that time 42 or 43 States have provided this service each year. Slightly less than half the States reported expansion of the activity in 1949 with fewer States reporting expansion in 1950 and planning expansion for 1951. Only about one-fourth of the States gave major emphasis to this phase of the program.

Analysis of foods and drugs is frequently a part of the State laboratory program, particularly the bacteriological examination of food. This service was provided by 52 States in 1948 and 1949 and by 50 States in 1950. Not many States reported expansion of this activity each year, and a very few program directors indicated the assignment of major emphasis. The chemical examination of foods was available in slightly more than 30 States, while the chemical examination of drugs was available in from 20 to 24 States in each of the five years for which data are included in this study.

The chemical and physical analysis of air and gases has been a reportable item in the Annual Combined Report and Plan since 1949. About two-thirds of the States performed each type of analysis for the years indicated in table 14; few States reported expansion in activity or assignment of major importance to these functions.

Free Distribution of Biologicals

In 1946 a function of the State health department laboratory in 29 States was the free distribution of biologicals produced in the laboratories to those designated as official recipients, which are, in most cases, the local health units. Only 25 States conducted this service in 1950, but 40 States purchased biologicals for free distribution. Between 13 and 17 States reported expansion of biological production each year. Only six to eight States reported expansion of the purchase of biologicals. The number of States according major emphasis to the production of biologics has steadily decreased from 19 in 1946 to 15 in 1950. Only six States placed major emphasis in 1950 on the distribution of drugs purchased.

Assistance to and Approval of Local Laboratories

State health department laboratories assist local laboratories in the training of personnel and in supplying reagents, antigens, and supplies. A limited number of States also supply personnel and provide financial assistance to local laboratories. These activities, with the exception of training, were infrequently expanded from year to year and practically never formed a fundamental part of the State laboratory program.

With respect to the approval of local laboratories by the State laboratory, this activity occurred most frequently when directed to serological tests for syphilis. From 15 to 27 States reported expansion of this activity for the individual years covered by this analysis, and about one-third of the States assigned major emphasis to the approval of local laboratories performing serological tests for syphilis. Approval of local laboratories for other types of laboratory techniques is not a common practice of State health departments.

Auxiliary Laboratory Facilities

According to available information, 32 State health departments reported the operation of 154 branch laboratories during 1950. In addition, there were 10 States which contracted with 174 local laboratories to perform laboratory tests. Also, nearly half of the 53 State health departments indicated the ownership and operation of mobile laboratory units which totaled 32 throughout the nation.

Personnel

A wide variety of classifications of personnel make up the staff of the modern State health department laboratory. Table 15 indicates that, in addition to professional and technical laboratory personnel, physicians; clerks; maintenance, service, and custodial workers; and a miscellaneous group termed "others" make up the personnel assigned to the laboratory programs of the State health departments. Except for a slight decrease in 1948, the total personnel assigned to this program has increased each year since 1946. Up to 1950 there had been an actual increase of about 600 persons with a further expansion of about 250 positions planned for 1951. From 1946 to 1950 the expansion in the number of laboratory personnel was particularly great in Georgia, New York, Florida, Tennessee, and Louisiana. These States accounted for more than half the increase in personnel during the five-year period.

The decrease in laboratory personnel recorded for 1948 was largely the result of the failure of Pennsylvania and Iowa to report their laboratory personnel under this heading.

The majority of employees in the laboratory program are classified as laboratory personnel. These include both professional and technical persons who conduct the laboratory work and report their findings to the responsible

operating divisions of State health departments and other interested parties. Between 1946 and 1950 there was an increase of about 38 percent in the number of such workers employed.

The number of physicians employed in the laboratory program varied between 43 and 51 during the five-year period. Plans for 1951 called for 56 physicians to be employed in this program. Generally speaking, physician assigned to this program assume supervisory functions and are primarily trained as professional laboratory workers, in addition to having a medical degree.

Clerks accounted for about 20 percent of the employees, and maintenance service, and custodial workers constituted more than 30 percent of the personnel assigned to this program. The latter group was included in "others" prior to 1949.

Table 14.--Participation by State Health Departments in Selected Laboratory Services for Designated Years

Activity	Number of States																
	Participating in activity						Reporting expansion over previous year						Assigning major emphasis to activity				
	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950
Diagnostic laboratory services for:																	
Bacterial infections																	
Blood cultures	*	*	*	50	50	50	*	*	*	12	12	16	*	*	*	2	2
Brucellosis	*	*	*	50	50	50	*	*	*	23	20	17	*	*	*	22	20
Enteric infections	53	53	53	53	53	53	27	31	31	27	25	22	30	30	30	34	33
Pneumococcal infections	42	43	43	43	42	42	4	5	4	4	1	1	2	1	0	0	0
Streptococcal infections	51	51	51	53	52	52	12	12	6	8	10	6	6	7	6	6	4
Tuberculosis	53	53	53	53	53	53	34	43	45	48	46	44	45	46	44	47	50
Virus and rickettsial infections																	
Rabies	46	47	48	48	47	48	9	22	21	13	17	13	8	15	16	13	15
Poliomyelitis and virus infections of the central nervous system	*	*	*	16	16	19	*	*	*	6	7	7	*	*	*	1	1
Influenza and virus infections of the respiratory system	*	*	*	25	31	34	*	*	*	16	18	16	*	*	*	1	2
Rocky mountain spotted fever	*	*	*	42	43	43	*	*	*	9	16	11	*	*	*	2	2
Murine typhus	*	*	*	32	32	32	*	*	*	10	10	11	*	*	*	4	3
"Q" fever, psittacosis and others	*	*	*	22	27	29	*	*	*	12	15	15	*	*	*	2	2
Mycotic infections																	
Epidermal	*	*	*	38	40	38	*	*	*	14	17	18	*	*	*	0	0
Parasitic infections																	
Amobae and other intestinal protozoa	*	*	*	53	53	53	*	*	*	18	23	17	*	*	*	9	8
Clinical pathology																	
Rh typing and blood grouping	*	*	*	31	32	34	*	*	*	23	22	20	*	*	*	17	19
Blood counts and hemoglobin	33	30	31	29	31	31	8	10	12	10	12	4	3	4	6	4	5
Blood smears and differential counts	*	*	*	35	36	36	*	*	*	7	8	3	*	*	*	3	3
Tissue examinations	20	19	22	17	17	17	4	9	9	7	9	8	1	3	5	6	6

Table 14.--Participation by State Health Departments in Selected Laboratory Services for Designated Years--continued

Activity	Number of States																
	Participating in activity						Reporting expansion over previous year						Assigning major emphasis to activity				
	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950
Sanitation services																	
Analysis of water samples																	
Bacteriological examination	*	*	*	53	53	53	*	*	*	37	31	29	*	*	*	50	50
Special examination (stream pollution, etc.)	42	45	47	47	45	45	9	19	21	22	22	23	4	4	5	8	7
Analysis of milk samples																	
Bacteriological examination	46	47	49	48	48	48	21	27	27	29	27	26	32	29	29	30	35
Chemical examination	*	*	*	43	42	42	*	*	*	24	19	21	*	*	*	14	15
Analysis of food and drugs																	
Bacteriological examination of food	46	48	52	52	50	50	12	17	16	12	16	11	7	3	2	4	5
Chemical examination of food	29	31	33	31	31	31	10	13	12	13	12	11	9	11	12	12	11
Chemical examination of drugs	20	22	24	23	22	22	4	3	5	8	8	7	3	3	3	3	2
Physiological examination of drugs	7	7	6	9	10	10	1	0	1	4	0	1	1	0	0	0	0
Analysis of air and gases																	
Chemical	*	*	*	35	39	40	*	*	*	6	8	9	*	*	*	8	6
Physical	*	*	*	34	37	38	*	*	*	6	9	5	*	*	*	3	3
Free distribution of biologicals																	
Produced	29	29	29	27	25	25	15	17	13	14	13	10	19	19	17	16	15
Purchased	*	*	*	40	40	39	*	*	*	8	6	2	*	*	*	7	6
Assistance to local laboratories																	
Financial	13	11	12	11	11	11	2	1	1	3	2	3	2	1	1	2	3
Reagents, antigens, supplies, etc	*	*	*	35	38	40	*	*	*	14	16	15	*	*	*	2	2
Personnel	*	*	*	13	14	15	*	*	*	6	6	5	*	*	*	1	1
Training	*	*	*	41	42	42	*	*	*	19	22	21	*	*	*	5	6
Approval of local laboratories for:																	
Bacteriological services	*	*	*	16	16	20	*	*	*	7	7	9	*	*	*	3	3
Chemistry services	*	*	*	8	9	11	*	*	*	0	2	4	*	*	*	1	0
Clinical pathology	*	*	*	6	7	8	*	*	*	2	3	4	*	*	*	0	0
Syphilis serology	35	37	38	42	45	46	15	19	20	27	25	15	16	16	22	21	22

* Not included as an item on the Annual Combined Report and Plan schedule for this particular year.

Table 15.--Full-Time Personnel Assigned to Laboratory Services of State Health Departments for Designated Years

Personnel classification	Number employed					Number planned
	1946	1947	1948	1949	1950	1951
Total.....	2,620	2,853	2,747	3,161	3,252	3,516
Laboratory personnel.....	1,047	1,229	1,149	1,400	1,448	1,621
Physicians.....	43	51	51	45	45	56
Clerical, administrative, and fiscal.....	561	566	557	621	653	680
Maintenance, service, and custodial.....	*	*	*	1,058	1,056	1,110
Others.....	969	1,007	990	37	50	49

* Not reported as a separate class of personnel.

Public Health Nursing

Public health nursing is a service activity in that it contributes a particular type of professional service to the many other health programs which deal with specific conditions or diseases. All States have nursing programs, and most of them are organized as separate sections, divisions, or bureaus in the State health departments. However, in many States the public health nursing organizational unit functions as a subordinate unit under preventive medicine, local health administration, maternal and child health, or some other established division or bureau within the health department. Regardless of the organizational setup, nursing services are so closely integrated with other health programs that they are a vital part of each program which deals with a specific health field. The public health nursing staff renders consultant nursing services to other State health programs and supervises and advises public health nurses working in local areas.

Assisting Other State Health Department Programs

Some of the items selected from the plan for presentation in this analysis further emphasize the importance of the nursing program as a service activity to other divisions of State health departments. With the exception of 1946, the nursing unit in 52 States participated in the formulation of plans, policies, and programs for nursing in the several bureaus of the State health department. In each of the years included in this report, more than half the States expanded this activity over the level of the previous year. No other activity in the nursing program was assigned major emphasis by as many States; 37 program directors placed major emphasis on this phase of the public health nursing program in 1950.

Another way in which State health department nursing programs aid other programs is in the arrangement for distribution of nursing assistance among all bureaus of the State health department. This assistance includes recruitment of nursing personnel, study of nursing needs, evaluation of personnel recruited, assignment of personnel to other bureaus, and rendering of nursing service to other bureaus. By 1950 there were 52 States in which the arrangement for distribution of nursing assistance to all bureaus was a part of the public health nursing program. Expansion of activity was more widespread in 1948 than in other years; 31 States reported expansion of their programs in this respect. During 1947, 1948, and 1950, there were 30 States which assigned major emphasis to this phase of the nursing program, but less than half the total States assigned it major emphasis in the other years included in this study.

The coordination of nursing services in all bureaus of State health departments has been a part of the nursing program in 50 States since 1948. From 25 to 35 States have reported expansion of this activity during each of the years included in the study, but only about half the States devoted major emphasis to the coordination of nursing services.

Assisting Local Areas

Study and analysis of the need for public health nurses is an important service which the State nursing program may provide to local areas. Except for 1946 and 1948, all State nursing staffs conducted such studies. The most widespread expansion in this phase of the program during the period under study was planned for 1951; 31 States anticipated growth in this activity during that year. More than half the States indicated expanded programs in 1946, 1947, and 1949. The number of States assigning major emphasis to this project gradually declined from 15 in 1946 to 11 in 1949, but in 1950 there were 12 States which focused major attention on this project.

Between 49 and 52 States offered guidance to local areas in planning their nursing programs during the period under study. Major emphasis placed on this project by 28 to 33 States each year indicates that this activity takes precedence over most of the other services in the nursing program. Expansion in this activity was reported by 33 States for 1946 as compared to only 22 States in 1948. During the latter years of the period, more States reported expansion than in 1948; 31 States planned expansion of this activity in 1951.

Observation of field and clinic procedures with a view to suggesting improvement is another phase of State-local assistance rendered by State nursing programs. In 1947 all States participated in this item, and during each of the other four years all but one State offered this service. The number of States expanding this activity decreased from 35 in 1946 to 20 in 1948; 34 States planned expansion of the program in 1951. Since 1947 there has been a general decline in the number of States assigning major emphasis to this phase of the nursing program during the period under study.

A very real assistance to local areas lies in direct nursing services which are rendered in the field or in clinics. About three-fourths of the States provided these services. There was little difference in the number of States providing field services as compared to those providing clinic nursing services. Generally, the number of States reporting expansion of this activity over the previous year averaged around one-third of the States during the 1946-1950 period. Similarly, only about one-quarter of the States reported major emphasis devoted to this activity. The development of full-time local health departments having their own nursing staffs relieves State health departments of responsibility of providing direct nursing services to local areas. Direct nursing services to local areas remain an important part of the public health nursing program in those States which have few local health units or other types of locally sponsored nursing services.

A review of periodic reports and other devices for purposes of evaluation of local public health nursing programs was a part of the State nursing program in all but one State during the entire period under study. Less than 10 States generally assigned major emphasis to this phase of the program each year, and usually less than 20 States reported expansion of the activity. Nevertheless, this service was still almost universally provided as a part of the State nursing program. Actually, in 1950 as many as 25 State directors reported expanded operations over the previous year, and 31 directors indicated plans for expansion in 1951.

Training

The current study indicates that all States sponsored in-service conferences or institutes as part of their public health nursing program from 1946 to 1950. This type of training has been particularly helpful in the areas where the public health nurses do not have formal public health education. Approximately two-thirds of the States reported expansion of this activity each year, and from 28 to 37 reported that major emphasis was devoted to the program during the individual years covered by this analysis.

The development of teaching areas for field experience is an important function of the State public health nursing program. Plans for 1951 indicated that all but four States planned such activities for that year. According to table 16 there has been a continuous increase in the number of States participating in this activity since 1947. About half the States reported expansion of this activity each year, but only a very small number devoted major attention to this phase of the nursing program.

Shown below for 1949 and 1950 is the number of public health nurses in State health departments having full-time specialized training of not less than three months in an approved program of study for specified types of service. In these years a high proportion of the nurses shown as having specialized training was reported in the local health service field rather than in any one of the specialized fields.

Type of service	Number of nurses			
	Consultant		Field and/or clinic	
	1949	1950	1949	1950
Maternity-child health	53	55	13	32
Tuberculosis	31	33	5	8
Crippled children	29	35	51	16
Venereal disease	13	17	9	13
Industrial hygiene	12	12	0	1
School health	0	1	0	0
Mental hygiene	12	13	2	2
General communicable disease control	3	2	4	4
Cancer	5	6	0	0

Personnel

The personnel in State health department nursing programs, according to table 17, was composed of nurses, clerks, and "others." Generally, nurses accounted for more than 80 percent of the full-time personnel of State health department nursing programs. Clerks comprised most of the remaining personnel, while "others" accounted for less than one percent of the staff of nursing programs and included health educators and maintenance workers.

For a complete picture of the distribution of public health nurses among the various programs, reference should be made to table 5, page 13. The total number of nurses employed in generalized public health nursing programs increased from 535 in 1946 to 752 in 1950. During the same period, clerks assigned to the public health nursing program increased from 122 to 144. States planned to employ an additional 68 nurses and 5 clerks in the public health nursing program during 1951.

Gains in staffing in the nursing program between 1946 and 1950 were most marked in the District of Columbia, Utah, Alaska, and Hawaii. In nine States there was no change in the number of personnel assigned to this program during the period, while in about a dozen other States the number decreased.

The greatest increase in the number of persons employed in the nursing program was shown for 1949 when an increase of 258 persons, or 39 percent, was reported over the data for 1948. This gain was largely the result of changes in the reporting procedures rather than an actual increase in the number of employees. Prior to 1949 the staff reported for public health nursing included only central office employees. In 1949, however, the nursing personnel of branch and district offices of State health departments performing generalized nursing services, as well as central office personnel, was reported as assigned to the general public health nursing program.

Table 16.--Participation by State Health Departments in Selected Public Health Nursing Activities for Designated Years

Activity	Number of States																
	Participating in activity						Reporting expansion over previous year						Assigning major emphasis to activity				
	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950
Assisting other State health department programs in:																	
Formulation of plans, policies, and programs	51	52	52	52	52	52	28	29	32	31	31	28	31	34	34	32	37
Distribution of nursing assistance	50	51	51	51	52	51	25	23	31	26	25	26	26	30	30	24	30
Coordinating nursing services	47	49	50	50	50	50	25	33	27	35	29	34	22	28	26	27	29
Assisting local areas in:																	
Study and analysis of nursing needs	51	53	52	53	53	53	27	27	18	28	22	31	15	14	12	11	12
Planning nursing programs	52	50	51	49	49	49	33	30	22	28	27	31	32	33	28	31	29
Observing and suggesting improvement in field and clinic procedures	52	53	52	52	52	52	35	28	20	26	24	34	28	32	25	22	20
Direct nursing service																	
Field	44	43	46	46	46	46	17	22	18	12	14	13	14	12	11	13	13
Clinic	40	41	44	43	43	43	14	17	19	12	14	10	11	11	11	12	13
Evaluation of program	52	52	52	52	52	52	21	19	20	18	25	31	13	7	8	9	8
Training																	
In-service conferences and/or institutes	53	53	53	53	53	53	35	37	32	35	33	30	28	36	37	31	28
Developing teaching areas for field experience	40	37	42	44	48	49	21	24	28	23	28	34	3	11	10	7	5

Table 17.--Full-Time Personnel Assigned to Public Health Nursing Programs of State Health Departments for Designated Years

Personnel classification	Number employed					Number planned
	1946	1947	1948	1949	1950	1951
Total.....	659	683	659	917	898	973
Nurses.....	535	560	524	764	752	820
Clerical, administrative, and fiscal.....	122	120	132	147	144	149
Others.....	2	3	3	6	2	4

General Communicable Disease Control

The very existence of many of our health departments today is traceable to some action taken with respect to the control of epidemics from communicable diseases. Now, as in the past, this program is considered a basic responsibility of the State health department, and the services performed in this program for the control of transmissible diseases have long been available in every State. The services rendered are not exclusively connected with the communicable disease control program but, in many ways, are interlaced in the activities included in most of the other public health programs. Perhaps one of the best examples of this is the part immunization activities play in the maternal and child health program. While the approach to this program was formerly one of rules and regulations, the newer outlook is one of education and service. Great strides made in scientific knowledge and medicine have contributed greatly to the control of communicable diseases.

Little change occurred between 1946 and 1950 from the standpoint of specialization in organization for the control of communicable diseases. Although placement of responsibility for this function in the organizational pattern of the health department was somewhat uniform, there was great difference with respect to the terminology of the organizational unit responsible and the scope of activities performed other than those directly related to communicable diseases.

Free Distribution of Drugs and Biologics

By 1947 it had become customary for all the State health departments to provide for the free distribution of drugs and biologics in order to prevent or control communicable diseases. Among the immunizing agents most frequently dispensed without charge through official or voluntary health agencies and private physicians are: Whooping cough, typhoid, and smallpox vaccines; toxoid for diphtheria immunizations; tetanus antitoxin or toxoid; toxin for Shick tests; silver nitrate; immune globulin serum; and penicillin. As indicated in table 18, more States gave major attention to this phase of the program than to any other. In 1946 there were 24 States which assigned major emphasis to this activity, and, with the exception of 1948, a gradual decline in program followed until by 1950 only 20 States were assigning it major emphasis. The number of States reporting expansion in this activity has decreased consistently since 1947, and only eight State health departments indicated plans to expand this program in 1951.

Investigations of Biological Reactions

Another reportable item in the Annual Combined Report and Plan is that of investigations of untoward reactions from use of biologicals. The number of States conducting investigations of adverse reactions from use of new [illegible] rates in 1946 to 42 in 1950. Nine was the largest expansion in this activity in any year. Never [illegible] idered the problem critical enough to rate major disease control program.

Routine Performance of Immunization

Routine performance of immunizations is one of the ways in which direct service is rendered to local areas by the State health departments. For example, in cases where epidemics appear imminent, physicians in the State health department may be called upon to perform immunization service. In most States this service is normally considered a routine duty of State and local health departments, and, in other States, clinics are operated on a cooperative basis with the State physician assisting the local staff. About 60 percent of the States sought this type of safety measure throughout local areas. The frequency with which expansion in this activity was reported increased from 5 States in 1946 to 15 in 1948 but gradually declined to only 7 States in 1950, with a like number planning expansion in 1951. The number of States assigning major emphasis to this project followed much the same pattern, although 13 States assigned this project major emphasis in 1950 as compared to 11 in 1946.

Sampling Devices

The utilization of sampling devices to determine population protection by immunization against specific diseases provides one means of systematic evaluation of program. Up to 37 State health departments, during the period covered by this study, had resorted to the application of sampling devices to measure the number of persons protected by the use of immunization agents in combating communicable diseases. The number of States reporting increases over the previous year in the use of methods for testing effectiveness of program rose from 6 in 1946 to 12 by 1950, and plans for 1951 indicated a further rise to 15 States. Fewer States assigned this activity major emphasis than any other activity in the communicable disease control program.

Community Education

Education of the public in the control and prevention of communicable diseases was promoted in 52 States from 1946 to 1949 and in all States in 1950. As mentioned earlier, there has been a gradual shift in the basic concept of the communicable disease program from one of enforcement of rules and regulations, primarily, to one of education and service. More States reported expansion in community education in 1947 than in any other year; 27 States indicated increases in this activity over the previous year. For 1950 only 21 States indicated growth in this activity, and only 19 planned expansion in 1951. Major attention was concentrated on this phase of the communicable disease control program by only 8 or 10 States during the years covered by this study.

Applied Research in Epidemiology

In 1947, according to table 18, the State health departments in 39 States took advantage of applied research in their epidemiological activities. By 1950, however, 10 less States reported this project, and few States assigned it major emphasis. Some States indicated expansion in apppied

research programs, but increased activity was never noted by more than half the States engaged in research. The number of States expanding this research project was 17 in 1947 and 19 in 1948 as compared to 11 States expanding this program in 1946. Although only 9 States reported increase in this activity in 1950 over the previous year, this type of field research was to be expanded by 13 States in 1951.

Consultative Service to Local Health Officers

Consultative services relating to the diagnosis of communicable diseases were available to the local health officers through 49 State health departments in 1946, 1949, and 1950, and through 48 departments in 1947 and 1948. Excluding from consideration the District of Columbia, this service was to be provided by all but one State health department in 1951 according to table 18. With 16 to 19 States assigning major emphasis to this activity from 1946 to 1950, consultative service ranked next to the distribution of drugs and biologics in frequency of assignment of emphasis.

Control of Canine and Human Rabies

The control of canine and human rabies was considered a function of State health departments by 37 States in 1946. By 1950 interest had grown in this activity, and 45 States had undertaken it as a part of this health program. While the number of States assigning major emphasis to this project was comparatively low, the trend was consistently upward from three States in 1946 to seven in 1950.

Personnel

During the period 1946-1950 the total staff of the general communicable disease program decreased from 429 to 399, or by about 7 percent. In making a State by State comparison of the total number of persons employed, it was noted that the States of Pennsylvania, North Carolina, and New Jersey accounted for the major decreases in this period. However, even these reported decreases were offset to a large degree by the comparatively large increase in staff reported by the Massachusetts State health department. Plans for 1951 proposed that the total personnel would reach 430, thereby paralleling the 1946 staff.

The over-all staff of the communicable disease program is largely made up of physicians, nurses, sanitarians, laboratory personnel, and clerical workers. A small segment of personnel classified as maintenance workers is also included in the staff of this program. Veterinarians and statisticians predominate in the remaining classes of personnel, which, for the purposes of this report, had been grouped together and termed "others."

About half of the general communicable disease program staff fall in the classification of clerical, administrative, or fiscal personnel, and it is in this group that the greatest decline in personnel was indicated. (See table 19.)

Most of the State health departments have streamlined their requests for morbidity statistics to such an extent that the clerical aspects of this program have been somewhat curtailed. Also, the reduction in incidence of communicable diseases has lessened somewhat the demands for clerical assistance.

The number of physicians reported as engaged in this program declined from 60 in 1946 to 52 in 1950. On the other hand, the nurses occupied only 4 positions in 1946 but continued to increase each year until by 1950 they had almost tripled, and an increase to 14 nurses was planned in 1951.

Table 18.--Participation by State Health Departments in Selected General Communicable Disease Control Activities for Designated Years

Activity	Number of States																
	Participating in activity						Reporting expansion over previous year						Assigning major emphasis to activity				
	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950
Free distribution of drugs and biologics	52	53	53	53	53	53	22	22	21	15	12	8	24	23	26	23	20
Investigations of biological reactions	35	38	37	40	42	42	1	9	6	6	6	5	1	0	0	3	3
Routine performance of immunizations	36	32	32	31	32	31	5	10	15	8	7	7	11	12	8	10	13
Sampling devices to determine population protected by immunization	35	35	37	32	33	37	6	11	16	12	12	15	0	1	2	0	2
Community education	52	52	52	52	53	53	20	27	20	18	21	19	8	9	8	10	10
Applied research in epidemiology	37	39	38	28	29	29	11	17	19	10	9	13	7	6	5	2	5
Consultative service to local health officers	49	48	48	49	49	51	8	10	18	13	11	14	17	19	18	19	16
Control of canine and human rabies	37	40	42	42	45	45	5	15	10	12	17	16	3	4	5	6	7

Personnel classification	Number employed					Number planned
	1946	1947	1948	1949	1950	1951
Total.....	429	398	418	462	399	430
Physicians.....	60	54	59	57	52	57
Nurses.....	4	5	6	9	11	14
Sanitarians.....	112	106	117	114	78	83
Laboratory personnel.....	2	0	5	34	34	39
Clerical, administrative, and fiscal.....	225	207	211	195	174	184
Maintenance, service, and custodial.....	*	*	*	27	19	18
Others.....	26	26	20	26	31	35

* Not reported as a separate class of personnel.

Tuberculosis Control

All States sponsored tuberculosis control programs during 1950. In 44 States this program was administered by a separate section, division, or bureau of the health department. In the other States, except Connecticut, this program was administered in conjunction with other established programs within the framework of the State health departments. This represents little change over the situation prevailing in 1946 when 40 States had tuberculosis control programs administered by a separate organizational unit of the health department. In Connecticut the State Tuberculosis Commission is primarily responsible for the tuberculosis control program. Information covering the Commission's tuberculosis control activities is submitted to the Public Health Service through the State health department and is included in this study.

Radiography

X-ray is generally accepted as one of the best and quickest ways to examine people for the detection of tuberculosis. For 1948 State plans first contained an item pertaining to surveys conducted by mass radiography of community-wide areas. Since that time 50 or 51 States have reported this activity each year. (See table 20.) Forty to 45 States have placed major emphasis on this project. The number of States expanding the project from year to year steadily decreased from 46 in 1948 to 31 in 1950, and only 23 planned expansion in 1951.

Mass radiography of selected groups has been a reportable item since 1946, and during the five-year period, 1946-1950, from 47 to 52 States included such projects in their tuberculosis programs. Prior to the advent of the community-wide survey programs, from 39 to 42 States assigned major emphasis to surveys of selected groups. Since 1948, however, the number of States assigning major emphasis to this phase of the program has steadily decreased from 26 to 19. Also, the number of States reporting expansion in this activity from year to year steadily decreased, dropping from 44 in 1947 to 14 in 1950, with only 11 States planning expanded programs in 1951.

Equally important as the mass survey technique itself is the problem of adequate follow-up of all suspects discovered in mass survey programs. This item has been reported since 1949, in which year 53 States conducted such programs; in 1950 participation dropped to 51, but 52 States planned such a program for 1951. The number of States devoting major emphasis to this activity rose from 24 in 1949 to 28 in 1950. The number of States expanding this activity, however, decreased from 32 in 1949 to 29 in 1950, and only 26 planned expansion in 1951.

Records and Statistics

Case registers are designed to assist in the continuous supervision of all significant known cases of tuberculosis. They provide a continuous case history, in abstract form, for each person and a mechanism for scheduling each

individual for follow-up. The register is also used as a source of uniform statistical data about individual cases and permits comparisons of data from one area to another. Since 1948 all States have promoted the case register. From 32 to 39 States, during the five-year period, assigned major emphasis to this phase of the tuberculosis program. The number of States which reported growth in this activity declined from 37 in 1947 to 34 in 1950, and only 27 planned increased activity in 1951.

Important in the maintenance of case registers and adequate statistics is the provision of consultant services to local health units regarding record keeping practices. Since 1947, with the exception of 1949, 49 States included this function in their tuberculosis control program. In 1946 there were 44 States providing this service, and in 1949 there were 47. This activity, however, has never received major attention in the tuberculosis program of more than a dozen States. In 1949 and 1950 only five and six States, respectively, devoted major emphasis to this phase of the program. Since 1947 the number of States reporting expansion of this type of activity has steadily declined from 36 to 17. Only 16 States planned more activity in this phase of the program in 1951 than in the previous year.

The preparation and utilization of tuberculosis statistics in planning, directing, and evaluating the tuberculosis control program has been included as an item on the tuberculosis schedule since 1949, and since that time every State has reported participation in such activity. In only about a dozen States is this a major activity in the tuberculosis control program, but it was reported as an expanding activity in 27 States in 1949 and 1950, and expansion was planned in 30 States for 1951. The use of statistics offers a measurement of the extent of the tuberculosis problem so that adequate planning for personnel, facilities, and services may be made by the health department. Statistics also enable health departments to evaluate the tuberculosis program and permit justification of budget requests for funds to prevent the spread of the disease and to promote and provide medical services to the patient.

Clinical Service

By 1950 there were 39 States providing direct operation and/or support of clinics offering more than chest X-ray alone. This represents the average number of States which provided clinical service over the five-year period. The number of States giving major emphasis to clinic operation or support decreased from a high of 28 in 1947 to a low of 13 in 1949. Some expansion in activity occurred in 1947 when 32 States reported growth over the previous year, but in 1950 only 15 States reported increase in this activity; 19 States planned expansion in 1951.

Clinical nursing services were provided by 30 States in 1950. Only six States placed major emphasis on this activity that year as compared to four States reporting major emphasis in 1946. Few States reported expansion or growth of this activity from year to year; never more than 12 States reported expansion, and only 6 States planned growth in 1951.

Cooperation with Private Physicians

The stimulation of more accurate and complete reporting of tuberculosis by private physicians is an active part of the tuberculosis program of all 53 States. About one-third of the States placed major emphasis on this problem during the five-year period, 1946-1950.

In 1947 as many as 51 State health departments were assisting in the task of screening films for local physicians and local health departments. Only 48 States were providing this service in 1950, and only 47 States were planning to do so in 1951. About 40 percent of the States class this as a major activity in their tuberculosis control program. While the number of States reporting expansion in this activity has fallen off since 1946, there were still 24 States that reported increased activity in 1950; only 10 planned expansion for 1951.

Consultative Nursing Services

In the most effective tuberculosis control program of mass radiography the nurse consultant's job is first one of early planning. She realizes that the strain placed on the nursing staff in so comprehensive a program may call for many adjustments and shifts in program content and personnel. Her recommendations are discussed with the health officer and tuberculosis control officer as well as the director of nursing so that a well-coordinated plan of action will emerge and a successful follow-up program be instituted.

In 1948 all but three States made provisions for consultant nursing services to local health units as compared to 46 States in 1946 and 47 States in 1950. This activity was considered of major importance in the program of between 10 and 14 States each year. The number of States expanding the program has decreased annually from 23 States in 1946 to 15 States in 1950, and only 10 States planned expansion in 1951.

Education

Educational programs are directed to three groups of people in the field of tuberculosis. First, there is the program directed to the tubercular patient and his family. This educational activity is designed to prevent the spread of the disease to the general public and to other members of the patient's family. Since 1948 approximately 50 States have included this phase of health education in the tuberculosis control program. In 1947, 10 States devoted major emphasis to this activity, but since that time it has not been a major item in more than 5 States. There has also been a gradual decline since 1947 in the number of States reporting growth in this activity. Second, there is the program of education for the general public which is being carried out by 50 to 52 States. The number of States showing growth in this item decreased from 28 in 1946 to 12 planning expansion in 1951. Major emphasis was assigned this phase of the program in nearly 25 percent of the States. Third, there is the program of education for professional groups in which 49 States were participating in 1950, but in only

8 of these States was this activity assigned major emphasis. The number of States reporting an increase in this function declined from 28 in 1947 to 19 in 1950, and only 17 planned growth in 1951. Since 1947 it appears that fewer States have been directing major attention to the educational phase of the tuberculosis program.

Institutions

The reverse side of Schedule D-10 of the Annual Combined Report and Plan calls for additional information which has been compiled for all States and summarized in the following paragraphs.

Twenty-three State health departments in 1950 reported that the State sanatoria were under their administrative direction. Five other States indicated that State sanatoria responsibility was placed under a tuberculosis commission or board and four more under the department of welfare. In 14 additional States miscellaneous boards, commissions, or other official agencies were listed as responsible for the administrative supervision of State sanatoria.

It should be pointed out that 9 State health departments reported regular inspections by health department personnel of State sanatoria, 13 States inspected county and city sanatoria, and 13 State health departments inspected private sanatoria. None of these institutions were administered by the State health department.

There is a wide variety of agencies allocating State aid to county and city sanatoria, and foremost among them are the State health departments. Of the 22 States which supplied information on allocations for 1950, 12 State health departments were responsible for allocating State aid. In three States the State legislature appropriated monies directly to city and county sanatoria; in two States allocations were made by the office of the State auditor; and in two more by the department of welfare. In one State the department of institutions and agencies had this responsibility, and in another State it was the responsibility of the State sanatorium.

The range in per diem allowances for patients among 16 States ranged from $.72 to $5.24 for county and city sanatoria while the rate for the seventeenth State was $9.17. The range between the lowest and highest per diem allowances for State sanatoria was from $1.00 to $7.50. In addition, 17 States reported the provision of direct service without regard to per diem allowances.

Provision for inspection and improvement of facilities for tuberculosis control were reported for those services provided in mental hospitals and those services provided in other State institutions. In 15 States X-ray service was provided in the mental hospitals and in 17 States in other institutions. Twenty-five State health departments reported cooperation with mental hospitals and assistance through consultations, periodic surveys, etc., while 20 States reported comparable services available in other State institutions.

Personnel

The total number of full-time personnel assigned to tuberculosis programs in State health departments more than doubled from 1946 to 1950 (table 21). Most of the gain occurred in the clerical, administrative, and fiscal personnel and "others." The increase in clerical workers was largely attributable to the stress being placed upon the compilation and analysis of pertinent data made available through the use of case registers. Growth in the "others" group largely resulted from increases in the employment of X-ray technicians used in the radiography surveys, which numbered 287 in 1949, increasing to 340 by 1950.

The number of physicians assigned to the tuberculosis program each year has been consistently less than the 80 which were employed on the program in 1946. There has been a slight gain in the number of nurses assigned to the program since 1946. The increase in health educators, from one in 1946 to seven in 1950, and in medical social workers, from zero to eight in the same period, represents a high rate of increase but a small part of the total gain in personnel.

Of the 973 employees assigned to tuberculosis programs in 1950, physicians accounted for 8 percent, nurses 6 percent, clerical personnel 46 percent, and "others," including X-ray technicians, 38 percent. A high proportion of the personnel in this program as reported in 1950 was serving in six States, namely: New York (69), Pennsylvania (68), Massachusetts (54), Tennessee (53), Georgia (35), and Virginia (35). Two State health departments reported no full-time personnel working in tuberculosis control. In one of these States, Nevada, the program was carried on by a part-time director, while in Connecticut the program was under the direction of the State Tuberculosis Commission.

Table 20.--Participation by State Health Departments in Selected Tuberculosis Control Activities for Designated Years

Activity	Number of States																
	Participating in activity						Reporting expansion over previous year						Assigning major emphasis to activity				
	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950
Mass Radiography																	
Surveys of community-wide areas	*	*	51	51	50	51	*	*	46	35	31	23	*	*	40	45	44
Surveys of selected population groups	47	52	48	49	47	47	36	44	35	21	14	11	39	42	26	21	19
Adequate follow-up of suspects	*	*	*	53	51	52	*	*	*	32	29	26	*	*	*	24	28
Records and Statistics																	
Operation or promotion of case registers (State or local), with stress upon the continuous supervision of all significant known cases of tuberculosis	50	52	53	53	53	53	34	37	31	35	34	27	35	39	37	32	33
Provision of consultant services to local health units regarding record keeping practices	44	49	49	47	49	49	32	36	27	19	17	16	10	12	11	5	6
Preparation and utilization of tuberculosis statistics in planning, directing, and evaluating the tuberculosis control program	*	*	*	53	53	53	*	*	*	27	27	30	*	*	*	11	12
Clinical Services																	
Direct operation and/or support of clinics which offer more than chest X-ray alone	38	41	37	39	39	40	25	32	20	21	15	19	26	28	18	13	14
Direct provision or financial support of clinic nursing services	30	34	33	28	30	30	6	11	12	8	9	6	4	4	5	5	6
Cooperation with Private Physicians																	
Stimulation of more accurate and complete reporting of tuberculosis by private physicians	52	52	53	53	53	53	28	27	26	21	22	20	19	18	14	15	16
Interpretation of films for physicians and local health departments	47	51	49	46	48	47	28	34	29	20	24	10	20	21	25	18	19
Consultative Nursing Services																	
Provision of consultative nursing services to local health units	46	49	50	48	47	47	23	20	21	17	15	10	10	14	13	10	10
Conduct Educational Programs for:																	
Tuberculars and their families	42	49	50	51	50	50	18	26	18	15	15	14	2	10	5	5	5
General public	50	52	51	50	51	51	28	27	25	20	18	12	13	18	17	13	12
Professional groups	48	49	49	46	49	48	24	28	23	19	19	17	6	8	7	8	8

* Not included as an item on the Annual Combined Report and Plan schedule for this particular year.

Table 21.--Full-Time Personnel Assigned to Tuberculosis Control Programs of State Health Departments for Designated Years

Personnel classification	Number employed					Number planned
	1946	1947	1948	1949	1950	1951
Total	461	704	826	923	973	1,073
Physicians	80	73	78	74	77	94
Nurses	44	56	55	56	58	66
Laboratory personnel	13	9	10	8	14	18
Health educators	1	6	4	4	7	9
Medical or psychiatric social workers	0	4	5	7	8	14
Clerical, administrative, and fiscal	213	341	402	438	444	477
Others	110	215	272	336	365	395

Venereal Disease Control

Introduction of new methods of treatment for venereal disease has greatly changed the control program. The new antibiotics made possible rapid therapy with shorter schedules of treatment in contrast to the long-term schedules of a few years ago. Morbidity statistics reveal the general downward trend in the prevalence of venereal diseases resulting from these improved control measures.

In both 1946 and 1950, about three-fourths of the State health departments indicated that venereal disease control activities were administered by a separate bureau, division, section, or unit. In the other States the program was under the direction of a more inclusive bureau or division of the health department such as communicable disease or preventable disease control.

Assisting Local Areas

Most of the activities of the State health department listed in table 22 are in the nature of assistance to local areas in venereal disease problems. In 1946, 41 State health departments reported assistance to local areas by supervision of local clinical services. By 1947 three more States provided such supervisory services to local areas, and 44 States continued these services in 1948 and 1949; one more State reported participation in 1950. Plans for 1951 indicated a continuation of this program item in 44 States.

About one-third of the States revealed increased activity in this phase of the program in 1946 and 1948 and planned increase in 1951. Approximately one-fourth of the States indicated expanded operations for this item in 1947, 1949, and 1950. As compared to 16 States devoting major emphasis to this activity in 1946, there were only 7 States in 1949 which assigned this activity major emphasis. A total of nine States assigned this project major emphasis in 1950.

Case finding is a fundamental part of the venereal disease control program and ranks first in comparison to all other items in table 22 in number of States assigning major emphasis. Since 1949 all State health departments have assisted their local areas in the promotion of the interview method for case finding in the venereal disease control program. Major emphasis was placed on this technique of contact investigation by 42 States in 1947, as compared to 32 States in 1946 and 34 in 1950. Beginning in 1947, table 22 indicates a steady decline from 37 States reporting expansion over the previous year in this case-finding technique to only 25 States planning expansion in 1951. In spite of this decrease, more States reported expansion in this activity between 1946 and 1950 than in any other phase of the venereal disease program.

Another way in which State health departments assist local areas is in the direct provision or financial support of follow-up service for case holding by nurses, social workers, and lay investigators. Between 44 and 48 States participated in this follow-up service conducted by nurses or

social workers, as compared with 36 to 39 States using lay investigators for such service. It is interesting to note that the number of States participating in follow-up service by lay investigators increased steadily from 1948 to 1950. Also, a steady increase from 5 States in 1946 to 16 States in 1950 was noted in the number of States reporting greater use of lay investigators for follow-up work over each previous year.

Forty-nine to 50 States reported the direct operation or financial support of venereal disease treatment centers classified as clinics, and 32 to 36 States supported rapid treatment centers. The number of States reporting growth in support of rapid treatment centers decreased steadily from 28 in 1947 to 8 in 1950, and there were only 3 States planning increase in this activity in 1951. In contrast to the operation or support of rapid treatment centers, the number of States operating or supporting clinics showed a steady increase from 11 States in 1946 to 20 in 1950. During the period under study, between 19 and 31 States placed major emphasis on the maintenance of venereal disease clinics and rapid treatment centers.

In the interval covered by this study, an average of about a dozen State assisted local areas by paying private physicians for their diagnosis and referral to in-patient care of all venereal disease suspects. Seven States reported expansion in this activity in 1946, 1947, and 1948 and six States in 1949. Only two States reported expansion in this project in 1950, and a further decline to one State was indicated by 1951. Not more than five States assigned major emphasis to this project during any year of the period under study.

There were 24 States which paid private physicians for treating cases of venereal disease in 1946. Twenty States made such service available in 1949 and 1950, and the same number planned to do so in 1951.

Provision of Free Drugs for Syphilis and Gonorrhea

So that the control of venereal diseases would not be hindered by lack of the controlling agent, free drugs were distributed to the States for treating syphilis and gonorrhea. Almost all States provided free drugs for the treatment of syphilis during each year of the five-year period. For the control of gonorrhea, however, free drugs were provided by slightly fewer States. By 1951 it was planned to extend this program to a total of 48 States. Major emphasis was placed on the distribution of free drugs for syphilis by a relatively high proportion of the States. A decline in the frequency of assignment of major emphasis was noted, however, in 1947, 1948, and 1949. Distribution of drugs for gonorrhea was a major function in a lesser number of States, ranging from 8 to 19.

Maintenance of a Central Registry and Referral System

By 1950 all but two States reported the maintenance of a central registry and referral system for venereal disease suspects. While the number of States assigning major emphasis to this activity averaged about 29, the

average number of States reporting expansion each year was somewhat less. Actually, the number of States reporting growth in this activity declined from 23 States in 1946 to 12 States in 1950. A further reduction to 11 States was indicated for 1951.

Training of Personnel

The number of States participating in the training of personnel for this specialized program underwent little change from year to year. The 44 State health departments sponsoring training of personnel in 1946 advanced to 47 by 1949. For three years--1947, 1948, and 1950--the 46 States participating in this program remained constant. Similarly, there was no change planned for 1951 in number of States participating. With the exception of 1949, the number of States indicating expansion in this activity over each previous year continued to increase from 14 States in 1946 to 27 in 1950. The number of States assigning major emphasis to this project also continued to increase each year until by 1950 the number had tripled, expanding from three in 1946 to nine in 1950.

Personnel

The venereal disease program is carried on through the work of the physicians, nurses, investigators, laboratory personnel, health educators, clerks, and "other" personnel (table 23). During the period 1946-1950 the total number of employees engaged in this program rose by seven percent. The 1946 and 1950 data indicated that an increase in staffing was reported by 20 States, while 28 States reported decreases. In Montana no full-time personnel were assigned to this program by the State health department in 1946 or in 1950. In the four remaining States there was no change in the number of personnel between these years.

The most noticeable changes in staffing in this period were the decreases in physicians and clerks assigned full time to venereal disease control activities. Prior to 1949 venereal disease investigators were not tabulated separately but were included in the group called "others." This type of personnel constituted a large portion of "other" workers. It should be pointed out that the large decrease in total personnel reported between 1947 and 1948 was merely an inconsistency in reporting by one State which failed to exclude the count of rapid treatment center personnel from the 1947 personnel data.

Clerical personnel accounted for 56 percent of the total of 564 employees in 1946 and 42 percent of the 602 employees in 1950. Nurses or physicians never exceeded 12 percent of the personnel in any year, and laboratory personnel or health educators never exceeded 3 percent of the total staff. The total number of each type of employee was expected to remain the same in 1951 as in 1950 or show some increase, except in the case of investigators and laboratory workers. Slight decreases in these two types of personnel were indicated for 1951.

Table 22.--Participation by State Health Departments in Selected Venereal Disease Control Activities for Designated Years

Activity	Number of States																
	Participating in activity						Reporting expansion over previous year						Assigning major emphasis to activity				
	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950
Assisting local areas by:																	
Supervising local clinic service	41	44	44	44	45	44	18	13	18	12	14	17	16	12	10	7	9
Promoting interview method for case-finding	51	51	50	53	53	53	30	37	33	29	27	25	32	42	41	36	34
Direct provision or financial support of follow-up service for case-holding by:																	
Nurses and/or social workers	44	46	46	48	47	47	7	10	12	9	7	11	4	3	1	2	1
Lay investigators	36	39	36	37	38	39	5	8	11	12	16	16	3	4	3	3	5
Direct operation or financial support of venereal disease treatment centers																	
Clinics	49	50	50	50	49	49	11	13	15	16	20	13	28	31	25	22	21
Rapid treatment centers	36	36	35	34	32	27	25	28	18	10	8	3	24	28	26	24	19
Payment of private physician for:																	
Diagnosis and referral to inpatient care	16	13	11	12	13	12	7	7	7	6	2	1	4	4	5	2	1
Treatment	24	22	19	20	20	20	8	8	5	10	7	7	8	6	6	5	6
Provision of free drugs for:																	
Syphilis	52	53	52	52	49	49	17	17	21	18	20	17	31	29	26	25	26
Gonorrhea	47	47	46	44	46	48	21	18	14	14	15	14	19	9	8	8	12
Maintenance of a central registry and referral system	48	48	50	49	51	51	23	21	21	23	12	11	29	27	31	29	30
Training of personnel	44	46	46	47	46	46	14	16	23	22	27	20	3	4	7	8	9

Table 23.--Full-Time Personnel Assigned to Venereal Disease Control Programs of State Health Departments for Designated Years

Personnel classification	Number employed					Number planned
	1946	1947	1948	1949	1950	1951
Total.....	564	633	548	587	602	656
Physicians.....	66	46	50	43	39	57
Venereal disease investigators.....	*	*	*	133	123	115
Nurses.....	55	52	63	50	55	58
Laboratory personnel.....	11	16	19	15	18	16
Health educators.....	12	11	6	9	7	7
Clerical, administrative, and fiscal.....	318	307	269	263	251	271
Others.....	102	201	141	74	109	132

* Not reported as a separate class of personnel

Sanitation Services

Agencies other than the health department are frequently responsible for handling some problems of sanitation, but this analysis is concerned only with the environmental health programs of the State health department. By 1946 every State health department had established programs of environmental sanitation which varied in emphasis according to each specific problem and its geographical location. In almost all States the various sanitation specialties were centered within a bureau, division, or section of environmental sanitation or public health engineering.

Five separate schedules divided into sections dealing with specific areas of environmental sanitation were included in the Annual Combined Report and Plan of 1951. Activities selected from ten of the sections are presented in table 24. From the first schedule entitled "Control of Vector Diseases," the following three sections were selected for analysis in this study: (1) Malaria and mosquito control, (2) rodent control, and (3) garbage collection and disposal. Like the first, the second schedule includes three sections: (1) Sanitation of public water supplies, (2) sanitation of bathing places, and (3) plumbing control. Water pollution alone is the subject of the third schedule, and hotel and camp sanitation of the fourth. The fifth and last schedule covers milk sanitation and the sanitation of food establishments.

Control of Vector Diseases

Malaria and Mosquito Control

About two-thirds of the States were active from 1946 to 1950 in at least three of the selected malaria control items according to table 24. Perhaps from a public health standpoint one of the most important of these activities was the participation by the sanitation staff in the training and educational opportunities governing malaria control afforded professional groups and the lay public. Spraying of areas, screening, and the elimination of breeding places were the chief methods of malaria control suggested by the health department.

Another of the three most widespread activities in malaria control was the survey of the incidence, prevalence, and geographic distribution of malaria by the following methods: Blood smears, splenometric surveys, epidemiological surveys, and mosquito surveys. It is impossible to determine the extent of any public health problem without adequate knowledge as to the indicence of the disease. Therefore, it is not surprising that the stimulation of more complete reporting of malaria was also included in the reports by about two-thirds of the States during the five-year period under study.

Only about one-third of the States instituted measures for pest mosquito control through the promotion of mosquito abatement districts. The largest gain in number of States participating in any activity of malaria and mosquito

control occurred in the routine inspection or special investigation of prevalence of pest mosquitoes; the number of States participating rose from 22 in 1946 to 34 by 1950. According to table 24, in every item of the malaria and mosquito control program, the extent of participation for 1951 was expected to be identical to that reached in 1950.

Rodent Control

The promotion of local rodent ectoparasite control programs was a function of 35 State health departments in 1946 and gradually increased to 44 departments by 1950. During this same period, almost as many States reported the organization of rodent ectoparasite control campaigns in local communities, and the methods of control suggested were rat poisoning, rat proofing, and residual dusting projects. While the number of States reporting expansion in both of these rodent control activities fluctuated slightly from year to year, the average number of States expanding this activity was 19. As reflected in table 24, fewer States contemplated increase in these program items during 1951. In comparing the number of States assigning major emphasis to activities involving rodent control, the average was somewhat higher in the promotional phase of this program than in the actual organization of control campaigns.

Garbage Collection and Disposal

Reference to table 24 discloses that in 1950 all but one State provided advisory services pertaining to the collection and disposition of garbage. All but five States investigated local garbage collection practices and took part in activities leading toward the abatement of related nuisances, such as refuse dumps and fly breeding places.

More States placed major emphasis on the advisory services which they provided concerning the collection and disposal of garbage than on any other activity included in this immediate section. From 1946 to 1948 major emphasis was recorded by 26 or 27 States--more than half the States then participating in this project. For 1949 and 1950, however, only 19 States indicated that the provision of advisory services was a major program item.

Sanitation of Public Water Supplies, Sanitation of Bathing Places, and Plumbing Control

Sanitation of Water Supplies (Public)

One hundred percent State participation was reported in all five years of this study for the three following sanitation activities: (1) Approval of new sources of supply, additional sources to existing supplies, and new and extended treatment systems; (2) interpretation of results of laboratory analysis; and (3) promotion of improvements in existing supplies such as obtaining chlorination and instituting local laboratory control. Considerable

uniformity was evidenced in the number of States assigning major emphasis to the first activity mentioned above and to the promotion of improvements in existing supplies.

A health control method exercised in all but one State by 1950 was that involving the survey of water facilities used on interstate carriers. In relation to all other items, primary importance was placed on this activity by four-fifths of the States in 1947 and 1948, but the following two years major emphasis was reported by about one-fifth of the States.

Sanitation of Bathing Places

As indicated in table 24, all of the State health departments in 1949 and 1950 were furnishing advisory service concerning the sanitation of bathing places. Increase in the number of States assigning major emphasis to this activity was noted, but the number of States has not exceeded 18 in any year.

For the other three activities--application of standards of construction and operation of swimming pools and bathing places; periodic inspection of swimming pools; and surveys of natural bathing places--the extent of participation showed marked uniformity, with never less than 45 States and not more than 50 performing these services yearly.

Plumbing Control

Reference to table 24 shows that plumbing control is much more limited in scope than many of the other sanitation services. The provision of advisory service on plumbing installations was more frequently reported than any other activity. Extension of this service was evidenced by an increase of participating States--from 29 in 1946 to 34 by 1950. In the inspection of plumbing installations, as well as in the approval of plans for new plumbing, the States reporting pursuance of these projects never exceed two-fifths of the total.

Water Pollution

As indicated in table 24, four-fifths of the States, or more, were performing at least seven of the water pollution control activities in each of the reporting years. By 1950 studies were being made in all but one or two States to determine the cause and extent of water pollution. Recommendations for correction of stream pollution were being issued by almost as many States. Training programs for sewage and industrial waste treatment plant operators were engaged in by as many as 39 States in 1950. This number represents an additional 15 States over the 1946 figure. Four more States than in 1950 proposed to make training opportunities available to plant operators in 1951.

With one minor exception, every item included under the water pollution control program showed expansion of activity between 1946 and 1950. Intensification of effort to determine the cause and extent of water pollution

was particularly evident between 1947 and 1950. A very high proportion of the States reported increased activity in this field of operation, and an increasing number of States indicated the placement of major emphasis on such activities by 1950.

Hotel and Camp Sanitation

The health of the public is protected by periodic inspections of hotels and of tourist, summer, trailer, and labor camps. This responsibility was a regular function of 48 State health departments in 1946 and of 51 in 1950. In 1947 more than half the States participating in this activity reported expansion over the previous year. This function was considered a major item each year by between 24 and 31 States. An average of 45 State health departments established and distributed standards of camp construction and maintenance.

Sanitation of Milk and Food Establishments

Milk Sanitation

Foremost in activities of milk sanitation, coming under the jurisdiction of the State health department, was the provision of training and educational programs for local sanitarians engaged in milk inspection work, dairymen and pasteurization plant operators, equipment dealers, and the general public. This service was offered by 45 to 47 State health departments between 1946 and 1950. Twenty-seven States in 1947 was the highest number reporting expansion in this project over the previous year, while as many as 30 States in 1948 assigned major emphasis to these training and educational programs.

In the evaluation of local milk sanitation programs, table 24 reveals that there were ten more States in 1950 performing this service than in 1946. In three of the years under study, half the States participating indicated expansion over each previous year in the evaluation of local milk sanitation programs. This activity ranked next to training and educational programs in relative importance.

Investigation of milk-borne diseases was a health function in approximately 44 State health departments during this interval. The number of States reporting expansion in this activity over each previous year and the number assigning it major emphasis was negligible.

Great acceleration was noted in the promotion of testing of dairy herds for tuberculosis, bang's disease, and mastitis; the number of States conducting this program jumped from 7 States in 1946 to 30 by 1949. However, this activity has never received major attention in the milk sanitation program in more than seven States.

Sanitation of Food Establishments

An average of 44 State health departments assumed responsibility for the recommendation of adequate State legislation concerning the sanitation of food establishments. Even more extensive participation was noted for the two other activities included in the sanitation of food establishments, which are presented in table 24. In 1946 there were 47 State health departments inspecting establishments routinely, on a spot-check basis, or upon request, and the same number of States were providing advisory services to food establishments. Five years later 50 States were inspecting food establishments, and 52 States were offering advisory services to various types of establishments, as well as to local sanitation programs.

Major attention was focused on the inspection of food establishments by 39 States in 1947, but there was a decided decrease to 27 States by 1950. However, this service will continue to contribute immeasurably to the Nation's health, along with all the other phases of the sanitation program of the health department.

Personnel

It is significant that the total personnel increased between 1946 and 1950 by 90 percent in the entire sanitation program of the State health department. (See table 25.) In this program the following five specific types of employees were reported and a miscellaneous group referred to as "others": (1) Engineers, (2) sanitarians, (3) laboratory personnel, (4) clerks, and (5) maintenance, service, and custodial workers. The group called "others" included a number of inspectors and veterinarians. In 1946, of the 1,305 full-time employees, 24 percent were engineers, 34 percent sanitarians, and 25 percent clerks. Likewise, the percentage distribution of employees in 1950 followed closely that of 1946. Twenty States in 1946 each reported ten or less employees in the sanitation program, while only nine States in 1950 revealed such limited staffing. On the other hand, those States with the most employees (50 or more) numbered 7 in 1946 as compared with 16 in 1950. A gain of 241 employees in this program was planned for 1951, of which over 80 percent would be drawn from the ranks of engineers and sanitarians.

Table 24.--Participation by State Health Departments in Selected Sanitation Activities for Designated Years

Activity	Number of States																
	Participating in activity						Reporting expansion over previous year						Assigning major emphasis to activity				
	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950
CONTROL OF VECTOR DISEASES							Malaria and Mosquito Control										
Survey of the incidence, prevalence, and geographic distribution of malaria	32	34	32	34	35	35	14	5	6	7	7	6	13	12	11	9	11
Stimulation of more complete reporting of malaria	32	34	33	35	32	32	9	9	3	5	4	4	4	2	2	3	3
Entomological evaluation of effectiveness of control procedures	24	24	23	27	27	27	10	10	6	9	8	5	17	16	12	11	8
Training and educational activities for professional groups and lay public concerning malaria control	32	33	35	30	29	29	14	13	7	4	4	6	11	7	5	6	2
Distribution of drugs for treatment or prophylaxis of malaria	5	6	4	5	3	3	0	0	1	0	0	0	0	0	0	0	0
Pest mosquito control																	
Promotion of mosquito abatement districts	17	18	19	20	18	18	6	10	5	6	5	5	2	5	3	6	5
Routine inspection or special investigation of prevalence and distribution of pest mosquitoes	22	24	27	32	34	34	11	13	6	9	8	9	5	5	7	6	5
							Rodent Control										
Collection and examination of rodents for fleas and other ectoparasites	16	18	17	20	27	29	13	11	8	2	10	7	4	4	7	6	6
Promotion of local rodent and rodent ectoparasite control programs	35	34	39	43	44	43	16	16	24	20	20	15	19	10	13	14	19
Organization of rodent and rodent ectoparasite control campaigns in local communities	33	30	35	34	41	41	18	20	22	15	22	13	13	13	11	13	12
							Garbage Collection and Disposal										
Investigation of local garbage collection practices	47	46	46	44	48	48	13	22	15	15	20	12	16	12	9	8	11
Approval of construction plans for garbage disposal plants	28	27	24	29	29	29	4	9	5	7	3	3	6	5	4	0	0
Provision of advisory service regarding garbage collection and disposal	48	49	51	51	52	52	19	22	19	19	24	24	26	27	26	19	19
Participation in activities for abatement of related nuisances	47	45	48	49	48	47	11	18	16	17	14	11	22	14	14	17	13

Table 24.--Participation by State Health Departments in Selected Sanitation Activities for Designated Years--continued

Activity	Number of States																
	Participating in activity						Reporting expansion over previous year						Assigning major emphasis to activity				
	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950
SANITATION OF PUBLIC WATER SUPPLIES AND BATHING PLACES, AND PLUMBING CONTROL																	
Sanitation of Public Water Supplies																	
Approval of new sources of supply, additional sources to existing supplies, and new and extended treatment systems	53	53	53	53	53	53	33	35	22	19	21	11	38	37	34	31	34
Interpretation of results of laboratory analysis	53	53	53	53	53	53	20	20	14	15	18	10	21	23	21	20	17
Checking procedures of local water laboratories	38	38	38	45	45	45	7	11	8	12	10	6	3	2	2	1	1
Arranging, conducting, and participating in training programs for water plant operators	29	34	36	38	41	43	10	15	14	17	15	14	4	7	6	5	5
Promotion of improvements in existing supplies	53	53	53	53	53	53	28	32	21	25	29	27	33	38	34	30	29
Survey of water facilities (source, treatment, and distribution system) used on interstate carriers	50	50	50	51	52	52	15	14	9	8	5	5	38	40	42	16	13
Sanitation of Bathing Places																	
Application of standards of construction and operation of swimming pools and bathing places	47	49	49	46	50	50	7	16	11	15	16	10	17	18	17	24	28
Periodic inspection of swimming pools	45	47	48	48	48	50	10	21	12	10	13	18	17	21	16	12	12
Furnishing advisory service concerning bathing place sanitation	47	49	50	53	53	53	12	19	13	19	17	20	11	11	14	16	18
Surveys of natural bathing places	46	49	49	49	46	45	12	17	9	13	13	12	9	11	5	3	3
Plumbing Control																	
Approval of plans for new plumbing installations	17	16	16	16	18	19	8	9	9	8	12	6	8	9	8	6	6
Inspection of plumbing installations	21	20	21	20	21	22	14	12	12	9	13	8	11	10	10	9	10
Approval of qualifications of local plumbing inspectors	8	8	7	8	7	8	2	2	2	0	0	1	2	0	0	0	0
Provision of advisory service concerning plumbing installations	29	30	29	31	34	35	11	9	8	10	13	8	7	7	8	6	6

Table 24.--Participation by State Health Departments in Selected Sanitation Activities for Designated Years--continued

Activity	Number of States																
	Participating in activity						Reporting expansion over previous year						Assigning major emphasis to activity				
	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950
WATER POLLUTION CONTROL																	
Routine investigation of operating procedures of sewage and industrial waste treatment plants	51	51	50	50	50	52	22	26	23	25	26	36	31	28	27	19	24
Routine investigations of laboratory procedures at treatment plants to determine use of and adherence to details of standard methods (APHA)	*	*	*	39	42	44	*	*	*	14	13	18	*	*	*	2	2
Field surveys to determine need for, or adequacy of treatment of sewage and/or industrial waste, including sampling, laboratory examinations, flow measurements, etc	43	44	44	46	47	49	15	16	21	27	43	38	4	3	3	21	28
Provisions of technical advice and assistance to sewage and industrial waste treatment plant operators (personal interview and instruction)	48	50	51	50	51	52	17	26	27	20	25	34	29	27	27	17	16
Certification (approval of qualifications) or licensure of operators of sewage and industrial waste treatment plants	12	12	12	11	14	17	4	4	3	2	3	8	1	1	1	0	0
Arranging, conducting, and participating in training programs for sewage and industrial waste treatment plant operators	24	30	31	35	39	43	7	14	11	15	17	20	4	5	5	4	3
Advising municipalities on financing of construction, maintenance, and operation of sewage and industrial waste treatment plants	*	*	*	45	46	47	*	*	*	26	30	26	*	*	*	15	14
Study of water pollution																	
Determination of cause	46	46	47	48	52	52	19	27	21	24	39	37	16	20	19	27	30
Determination of extent (sanitary surveys, industrial waste surveys, collection and analysis of samples, etc.)	46	46	47	46	51	51	19	30	24	24	42	42	19	27	27	26	31
Recommendations for correction	47	47	47	44	49	50	18	24	23	25	36	41	18	16	20	23	28
Participation in interstate activities																	
Surveys	*	*	*	32	38	41	*	*	*	18	21	23	*	*	*	3	2
Compacts, informal agreements, etc	*	*	*	31	34	36	*	*	*	18	17	15	*	*	*	5	3

Table 24.--Participation by State Health Departments in Selected Sanitation Activities for Designated Years--concluded

Activity	Number of States																
	Participating in activity						Reporting expansion over previous year						Assigning major emphasis to activity				
	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950
HOTEL AND CAMP SANITATION																	
Establishment and distribution of standards of camp construction and maintenance	44	46	45	44	45	46	10	13	9	8	12	11	15	15	13	6	4
Application of standards of camp construction and maintenance	38	39	37	36	36	37	10	14	11	7	10	9	7	8	8	4	4
Periodic inspection of hotels; tourist, summer, trailer, and labor camps	48	50	49	48	51	51	19	27	18	12	18	13	30	24	24	27	31
SANITATION OF MILK AND FOOD ESTABLISHMENTS																	
Milk Sanitation																	
Evaluation of local milk sanitation programs	33	33	33	43	43	44	11	18	17	13	22	25	13	12	14	18	17
Participation in training and educational activities	45	46	45	47	47	47	15	27	20	23	24	23	17	16	30	12	14
Evaluation of local milk laboratories	34	36	36	36	37	37	4	9	9	4	7	4	3	2	2	1	2
Survey of milk supplies for use on interstate carriers	38	40	39	41	42	43	5	8	5	4	8	10	4	3	2	2	2
Control of milk and milk products for State institutions	39	42	44	40	42	42	9	13	15	10	13	10	5	5	5	1	1
Investigations of milk-borne diseases	43	44	44	44	42	42	4	4	3	2	4	2	1	4	3	1	0
Promotion of testing of dairy herds	7	25	26	30	30	30	3	9	10	6	12	9	2	7	7	4	2
Sanitation of Food Establishments																	
Recommendation of adequate State legislation	44	46	44	43	44	45	16	18	15	14	13	16	9	10	7	6	6
Inspection of establishments	47	51	50	50	50	50	20	27	29	15	22	19	29	39	38	27	27
Provision of advisory services	47	49	51	52	52	52	20	23	21	25	25	23	22	21	25	23	22

* Not included as an item on the Annual Combined Report and Plan schedule for this particular year.

Table 25.--Full-Time Personnel Assigned to Sanitation Service Programs of State Health Departments for Designated Years

Personnel classification	Number employed					Number planned
	1946	1947	1948	1949	1950	1951
Total.....	1,305	1,377	1,459	2,454	2,475	2,716
Engineers.....	311	363	424	532	592	713
Sanitarians.....	438	419	358	785	808	882
Laboratory personnel.....	44	53	61	87	102	111
Clerical, administrative, and fiscal.....	326	332	394	528	520	544
Maintenance, service, and custodial.....	*	*	*	321	207	205
Others.....	186	210	222	201	246	261

* Not reported as a separate class of personnel.

Heart Disease Control

The passage of the National Heart Act in 1948 established grants-in-aid for the control of cardiovascular diseases--the leading cause of death. This Act became fully operative with respect to grants-in-aid with the appropriation of $2,000,000 for grants to the States in fiscal year 1950. For the first time, the Annual Combined Report and Plan submitted for the fiscal year ending June 30, 1949, provided a schedule for the reporting of heart disease control activities of State health departments. Few States had organized programs for heart disease control operating in 1949. Perhaps in no other public health program has such acceleration and extension of activity been reflected as that shown in the heart program between 1949 and 1950.

In 1950 all but four States engaged in some type of heart disease control activities according to the State plan, although many of the programs were limited in scope. Most of the States administered this new program through one of the traditional organizational units of the health department such as the divisions of preventive medicine or maternal and child health. Eleven States, however, by 1950 had set up separate sections, divisions, or bureaus to deal with this specific health problem.

Records and Statistics

Most States planning a heart disease control program have recognized the need for statistical knowledge of the problem as the first step in the program. In 1949, 20 States reported participation in studies of the statistical and epidemiological aspects of heart disease through the use of mortality or morbidity statistics. Plans for 1951 indicated that all but six States expected to participate in such studies in that year. (See table 26.) Only eight States reported expansion of this activity in 1949, while 37 States reported increase in this activity in 1950; 32 States planned to broaden or intensify this activity in 1951. Six States assigned major emphasis to this phase of the heart disease control program in 1949, and 14 reported it as a major activity in 1950.

Maintenance and use of a registry of community resources for cardiacs was reported by only two States in 1949, but interest has increased in this activity: 16 States reported participation in 1950, and 25 States planned to engage in this phase of the heart program in 1951. The activity was expanded in 1950 over the previous year's level of operation by 16 States, and increased activity of this type was planned by 17 States for 1951.

Another phase of the cardiovascular disease control program is the conduct of surveys of community-wide areas and special population groups to determine the extent of existing heart disease cases. The Annual Combined Report and Plan indicated that more States are participating in these two types of surveys each year, and, also, that the number of States which are expanding this activity is increasing each year. Plans for 1951 proposed participation in these activities by 24 and 33 States, respectively. Sixteen

States proposed expansion of community surveys over 1950, with [illegible] planned to expand the study of special population groups. [illegible] signed major emphasis to these phases of their heart program.

Education and Training

Education is of utmost importance in the field of heart disease control. About 40 State health departments, by 1950, had initiated [illegible] grams for both lay and professional groups. The number of States [illegible] growth in these activities between 1949 and 1950 expanded fivefold. [illegible] States planned expansion in 1951 as compared to the number expanding in 1950. Six States placed major attention on the education of lay groups in 1950 as compared to two States in 1949. Nine States highlighted [illegible] ucational program directed to professional people in 1950 as compared to none in 1949.

By 1949 there were eight States which had initiated in-service training programs in the field of heart disease control. The number of States engaging in this activity increased to 29 in 1950, and 39 States planned to participate in this phase of the program in 1951. The number of States reporting expansion of this activity rose from 8 in 1949 to 27 in 1950, and 32 States planned an increased program for 1951. However, this activity is infrequently assigned major emphasis in the cardiovascular disease program.

Clinical Services

State health departments providing direct operation or financial support of cardiac clinics numbered 10 in 1949 and 34 in 1950. Six additional States indicated that they would include this phase of the heart program in their activities for 1951. In 1949 there were 7 States which expanded this activity over the previous year, while in 1950 there were 31 States which reported increased activity of this type; 31 States planned growth in 1951. This phase of the heart program was assigned major emphasis by 7 States in 1949 and by 19 States in 1950.

Nursing Services

There are three types of nursing services reported in table 2. Consultative service to local health units was provided [illegible] 23 States in 1950, and was planned in 31 States in 1951. The number of States reporting or planning expansion of this activity from year to year roughly parallels the number participating in the activity. Nursing services are not generally assigned major emphasis in the cardiovascular disease program.

In the field of case finding or physician referral of cardiac patients, nursing service was reported by 7 States in 1949, but [illegible] there were 34 States engaging in this activity; 40 States planned to participate in 1951. States expanding the activity increased over the base

period from 5 in 1949 to 26 in 1950, with 27 States planning expansion in 1951. Nurses were used by eight States in 1949 in cardiac clinics and in the follow-up of cases. In 1951, 37 States planned to participate in this part of the heart program. The number of States reporting expansion of this activity has also increased each year during the period for which data are available.

Consultative Services

Consultation to local health departments on the nutritional aspects of heart disease control was provided by 16 States in 1949, 30 States in 1950, and was planned in 35 States in 1951. While only 4 States assigned major emphasis to this activity in 1949 and 1950, the number of States which expanded the program over previous years increased from 3 in 1949 to 16 in 1950.

To date, the direct operation or financial support of rehabilitation services through consultation to local health units is a minor activity in the heart disease control programs of State health departments. Table 26 indicates that no State devoted major emphasis to this activity. Only 11 States planned to include such service in their heart program in 1951. The number of States planning expansion of the activity was small in 1949 and 1950, although eight States planned to increase this phase of their heart program in 1951.

Other Resources

Twenty-seven out of 53 States indicated that an advisory heart committee to the State health authority had been inaugurated up to the time the 1950 Annual Combined Report and Plan was submitted. The reports also indicated that 118 heart clinics were financed, staffed, or equipped, in whole or in part, by State or Federal funds during 1949, and that 30 more clinics were planned for 1950.

Personnel

In 1949 only a physician and clerk were identified specifically as assigned full time by the States to the heart program. The number of personnel reported as engaged full time in heart disease activities rose to 47 in 1950 (table 27). These 47 employees were reported by 16 States. In at least three additional States, full-time health department employees served this program on a part-time basis and are thus not included in this count. The 47 reported in 1950 included 8 physicians, 5 nurses, [illegible] and 6 other types (not specified). It was [illegible]ned to this program to a total of 98 [illegible] assign full-time employees to this [illegible]ed for more than twice the number of [illegible]) percent increase in the number of [illegible]1 1950.

Table 26.--Participation by State Health Departments in Selected Heart Disease Control Activities for Designated Years[1/]

Activity	Number of States																
	Participating in activity						Reporting expansion over previous year						Assigning major emphasis to activity				
	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950
Records and statistics																	
Studies of statistical and epidemiological aspects of heart disease through morbidity and mortality statistics	-	-	-	20	44	47	-	-	-	8	37	32	-	-	-	6	14
Maintenance and use of registry of community resources for cardiacs	-	-	-	2	16	25	-	-	-	2	16	17	-	-	-	0	1
Surveys of existing heart disease in:																	
Community-wide areas	-	-	-	1	18	24	-	-	-	1	17	16	-	-	-	1	5
Special population groups	-	-	-	4	24	33	-	-	-	4	21	25	-	-	-	1	2
Education and training																	
Education of lay groups	-	-	-	13	40	45	-	-	-	7	36	33	-	-	-	2	6
Education of professional groups	-	-	-	8	41	45	-	-	-	7	41	35	-	-	-	0	9
In-service training of personnel	-	-	-	8	29	39	-	-	-	8	27	32	-	-	-	1	2
Clinical services																	
Direct operation or financial support of cardiac clinics	-	-	-	10	34	40	-	-	-	7	31	31	-	-	-	7	19
Nursing services																	
Direct operation or financial support of public health nursing services:																	
Consultative services to local health units	-	-	-	7	23	31	-	-	-	5	17	25	-	-	-	0	1
Case-finding or physician referral	-	-	-	7	34	40	-	-	-	5	26	27	-	-	-	2	7
Cardiac clinics and follow-up	-	-	-	8	28	37	-	-	-	7	23	30	-	-	-	1	4
Consultative services																	
Provision of consultative services on nutrition to local health units	-	-	-	16	30	35	-	-	-	3	16	15	-	-	-	4	4
Direct operation or financial support of rehabilitation consultative services to local health units	-	-	-	4	6	11	-	-	-	2	3	8	-	-	-	0	0

1/ No schedule of h[illegible] s included in Annual Combined Report and Plan prior to 1949.

Table 27.--Full-Time Personnel Assigned to Heart Disease Control Programs of State Health Departments for Designated Years[1/]

Personnel classification	Number employed					Number planned
	1946	1947	1948	1949	1950	1951
Total.....	-	-	-	2	47	98
Physicians.....	-	-	-	1	8	18
Nurses.....	-	-	-	0	5	12
Health educators.....	-	-	-	0	6	9
Clerical, administrative, and fiscal.....	-	-	-	1	22	46
Others.....	-	-	-	0	6	13

1/ Personnel data for heart disease control not reported separately 1946 - 1948

Diabetes Control

The control of diabetes was first reported in 1949 as a program of State health departments in the Annual Combined Report and Plan. The initial year of reporting this program found 9 States undertaking some phase of the program, and in 1950, 14 States were participating in diabetes control. Projections for 1951 indicated a further rise to 16 States in at least two of the activities. (See table 28.)

In 1950, 14 States conducted educational programs for the lay public and professional groups; the same number of States provided nutritional consultative services to public health workers. For the first activity there was a 100 percent increase over the previous year in number of States participating, and for the latter activity a 56 percent increase. Plans for 1951 showed that these two services would continue to be the most outstanding in the diabetes program with respect to frequency of performance, as 16 States indicated participation by 1951.

Other activities for which more widespread participation was indicated between 1949 and 1950 included: Direct provision or financial support of case-finding plan by mass surveys; provision of free diagnostic laboratory services; conduct of research studies; and coordination of activities of other State and voluntary agencies in connection with diabetes control.

The activity, educational programs for the lay public and professional groups, was not only outstanding in the number of States participating, but in the number of States reporting expansion over each previous year, which approximated the number of States conducting this activity.

Reported data for 1950 indicated that more program directors were placing major emphasis on case finding through the use of mass surveys than on any other item. No doubt more States will be placing major emphasis on many other phases of this program as mass surveys and other methods continue to ferret out the diabetic.

Personnel

Although there is growing recognition of diabetes as a public health problem, State health department staffs assigned to this function are very small in number. A slight increase in personnel employed full time on this program was noted between 1949 and 1950. (See table 29.) The over-all staff increased from a total of 10 persons in 1949 to 13 in 1950, with an additional employee, a physician, planned for 1951.

During 1949 only one physician was assigned full time to this program, but by the following year two more had been added. Nurses, laboratory personnel, clerical workers, and "others" further complemented this staff, but the number of each reported in any one year never exceeded four.

Table 28.--Participation by State Health Departments in Selected Diabetes Control Activities for Designated Years1/

Activity	Number of States																
	Participating in activity						Reporting expansion over previous year						Assigning major emphasis to activity				
	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950
File of known diabetic cases	-	-	-	2	3	5	-	-	-	2	3	3	-	-	-	1	0
Direct provision or financial support of case-finding plan by:																	
Mass surveys	-	-	-	2	7	9	-	-	-	2	7	8	-	-	-	0	4
Diagnostic clinics	-	-	-	2	2	3	-	-	-	2	2	2	-	-	-	1	0
Educational programs for:																	
Lay public and professional groups	-	-	-	7	14	16	-	-	-	6	12	13	-	-	-	2	3
Classes on diets	-	-	-	3	5	7	-	-	-	1	3	4	-	-	-	1	0
Public health nursing service	-	-	-	3	5	6	-	-	-	2	3	5	-	-	-	0	0
Provision of medical social service	-	-	-	2	3	3	-	-	-	1	1	1	-	-	-	0	0
Nutrition consultative service	-	-	-	9	14	16	-	-	-	3	8	7	-	-	-	2	0
Free diagnostic laboratory services	-	-	-	4	8	9	-	-	-	1	4	3	-	-	-	1	1
Free distribution of insulin	-	-	-	2	2	2	-	-	-	1	2	1	-	-	-	2	2
Training of personnel	-	-	-	0	2	4	-	-	-	0	2	4	-	-	-	0	0
Research studies	-	-	-	2	5	5	-	-	-	1	4	2	-	-	-	1	2
Coordination of activities of other State and voluntary agencies	-	-	-	1	7	8	-	-	-	1	7	5	-	-	-	1	1

1/ No schedule of diabetes control activities included in Annual Combined Report and Plan prior to 1949.

Table 29.--Full-Time Personnel Assigned to Diabetes Control Programs of State Health Departments for Designated Years[1]

Personnel classification	Number employed					Number planned
	1946	1947	1948	1949	1950	1951
Total.....	-	-	-	10	13	14
Physicians.....	-	-	-	1	3	4
Nurses.....	-	-	-	3	2	2
Laboratory personnel.....	-	-	-	2	2	2
Clerical, administrative, and fiscal.....	-	-		3	4	4
Others.....	-	-			2	2

for diabetes control not reported separatel

Industrial Hygiene

In 1946 only 43 States were engaged in activities for safeguarding the health of industrial workers and for solving problems of occupational diseases. By 1948 all States were performing some functions in the industrial hygiene field. One State--South Dakota--temporarily discontinued industrial hygiene activities beginning with 1950.

Other agencies of State government have official responsibility for some phases of industrial hygiene in approximately two-thirds of the States. In New York and Massachusetts, State laws delegate official responsibility for industrial hygiene to the Department of Labor and to the Department of Labor and Industry, respectively. Description of their activities is included in the data presented in table 30 because the programs conducted by these States are supported in part by Federal grant-in-aid funds.

The extent and scope of services rendered varied considerably from State to State. In some States the industrial hygiene program included a wide range of functions; in others, reported activity was extremely limited in scope. In 1946, 36 States--exclusive of New York and Massachusetts--reported a separate organizational unit within the health department for administering industrial hygiene functions. By 1950 three additional States reported a separate industrial hygiene unit, section, division, or bureau. In other States, the industrial hygiene services were primarily carried out by the organizational unit responsible for environmental sanitation services.

Consultative Services

One of the most significant functions in State industrial hygiene programs is the provision of consultation to industrial establishments. Assistance in establishing or improving plant medical programs, nursing services, or dental services is not, however, included in all State programs. In 1950 there were 13 States which reported nonparticipation in any type of advisory and consultative services to industry.

Of the consultative services, the provision of nursing consultation to industrial establishments was given major consideration during the five-year period by the greatest number of States; also more States indicated expansion of effort on this phase than on any other type of consultative service. In several States this service was performed by the nursing division of the health department.

More than two-thirds of the States provided medical consultation to industrial health programs. There was considerable fluctuation in the number of States participating in this item, as well as in the number assigning this activity major emphasis. Dental consultation was made available in only approximately a third of the States.

Direct Services

The provision of direct medical services, including physical examinations, X-ray, laboratory tests, etc., to plant workers was more frequently included in the industrial hygiene program in 1950 than in 1946. As of 1950, 40 States indicated the performance of medical services, an increase of 7 States over the number reporting such activity in 1946. The proportion of industrial hygiene directors devoting major attention to this program item was relatively low during the five-year period.

Investigations and Studies

Health departments are the recipients of occupational disease reports in only approximately half the States requiring reporting. However, the reporting procedures and completeness of reporting have become the concern of more and more health departments. The number of States participating in the improvement of reporting occupational illness rose from 31 in 1948--the first year the item was included on the industrial hygiene schedule--to 36 in 1950; plans for 1951 included 4 additional States. Most of the health departments receiving reports make investigations and epidemiological studies of diseases reported. In others, such investigations and studies often stem from the request of industrial establishments. The investigation of suspected or reported occupational diseases has been much more commonly included as a program item than the promotional program for betterment of reporting. All but four or five States indicated performance of investigative activities pertinent to occupational diseases.

Except in few instances, all States, performing any industrial hygiene function, survey industrial establishments for the purpose of determining the presence and influence of various occupational conditions upon the employee's health. This function was assigned major emphasis by more program directors than any other in the industrial hygiene field. About 85 percent of the participating States gave this item major attention each year of the five-year period. Laboratory and field analyses of materials suspected as being health hazards are services also frequently made available. Growth of activity in this area was evidenced particularly between 1946 and 1949 by the frequency with which States reported expansion of effort as compared to each previous year's operation. A relatively high percentage of the States accorded major emphasis to laboratory and field analyses.

Cooperative Endeavors

The integration of facilities and services available from other organizational units of the health department was commonly reported by industrial hygiene program directors. Tuberculosis diagnostic facilities and venereal disease diagnostic and treatment facilities of the health department were utilized frequently, combining efforts of the respective divisions in protecting the health of industrial workers. Health education and informational services of the central health education unit are also integrated with industrial health services.

The number of States reporting integration of industrial hygiene with other health department services increased considerably between 1946 and 1947. This increase was largely attributed to the fact that several States initiated industrial hygiene programs during these years.

Inasmuch as there are many other departments of State governments and some voluntary agencies interested in and exercising influence over the improvement of industrial health, it is significant that effort is made to coordinate the various functions performed to avoid duplication of services. All States except two reported participation in this item during 1950. Each year approximately 50 percent of the States indicated expansion of effort in this direction.

Educational Activities

In addition to utilizing the general health education services of the health department, the majority of the industrial hygiene program directors have undertaken the promotion of industrial hygiene education and the development of health education materials. The extent of effort placed on these items shifted somewhat for the reporting years.

Personnel

As will be seen in table 31, there was a gradual increase in the number of industrial hygiene personnel reported each year during the five-year period. The over-all growth between 1946 and 1950 amounted to 46 percent, with 31 States reporting increase in personnel. Plans for fiscal year 1951 called for an additional increase over 1950 of seven percent.

All but eight States reported personnel assigned full time to industrial hygiene activities for 1950. In 1946, 13 States did not report any industrial hygiene personnel. This count includes New York State which did not supply the Public Health Service with personnel data for any year covered by this report. Generally, State staffs were small, ranging from 1 employee to 70 employees. In eight States, however, the industrial hygiene staff numbered more than 12 in 1950. Pennsylvania reported by far the largest staff each year.

More engineers were employed than any other class of personnel. Of the professional categories specified in table 31, laboratory personnel ranked second in number, with sanitarians, physicians, and nurses following. Industrial hygienists comprised a large part of the "others" group. In 1950 the number identified in that group totaled 15.

Table 30.--Participation by State Health Departments in Selected Industrial Hygiene Services for Designated Years

Activity	Number of States																
	Participating in activity						Reporting expansion over previous year						Assigning major emphasis to activity				
	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950
Consultative services																	
Provision of consultative services regarding establishment or improvement of:																	
Plant medical programs	40	36	37	37	36	35	14	10	15	15	16	17	13	8	5	2	6
Plant nursing services	33	37	36	39	38	37	16	15	19	17	20	14	14	13	15	16	17
Plant dental services	20	20	19	18	18	19	5	6	2	2	4	7	0	1	1	0	0
Direct services																	
Provision of direct medical services, including physical examinations, X-ray, etc	33	34	33	37	40	40	12	15	11	13	11	12	5	5	6	6	6
Investigations and studies																	
Conduct of a program for improving occupational disease reporting	*	*	31	34	36	40	*	*	11	11	13	21	*	*	4	3	4
Investigation of suspected or reported occupational diseases	*	*	48	48	49	51	*	*	31	21	19	23	*	*	8	4	7
Initial surveys of industrial establishments for determination of hazards	40	49	53	53	51	51	20	30	29	29	24	29	35	44	43	43	42
Laboratory and field analyses of environmental materials	42	44	49	51	50	50	24	25	30	36	28	37	27	35	37	36	33
Integration and coordination of industrial hygiene activities with other health department services and with activities of other agencies																	
Health education and information consultation service	36	47	50	51	49	49	13	19	25	23	25	24	2	8	11	8	10
Tuberculosis diagnostic facilities	38	48	49	49	46	47	16	18	21	14	11	12	6	8	10	10	7
Venereal disease diagnostic and treatment services	37	42	42	39	37	39	4	6	7	9	6	6	0	4	5	3	4
Coordination of activities of other official and voluntary agencies for improvement of the health of industrial workers	40	50	51	51	51	51	21	28	28	23	25	23	9	12	14	14	14
Educational activities																	
Promotion of industrial hygiene education	*	*	48	49	50	51	*	*	28	19	27	26	*	*	7	7	13
Development of health education materials	*	*	41	42	43	45	*	*	20	19	18	19	*	*	7	4	5

* Not included as an item on the Annual Combined Report and Plan schedule for this particular year.

Table 31.--Full-Time Personnel Assigned to Industrial Hygiene Programs of State Health Departments for Designated Years[1/]

Personnel classification	Number employed					Number planned
	1946	1947	1948	1949	1950	1951
Total.....	258	297	339	345	377	405
Physicians.....	30	26	24	28	26	31
Engineers.....	61	87	98	95	125	142
Sanitarians.....	34	35	34	34	20	19
Laboratory personnel.....	31	30	44	54	67	71
Nurses.....	16	18	24	23	25	27
Dentists.....	2	2	1	1	1	1
Clerical, administrative, and fiscal.....	69	81	89	88	88	90
Others.....	15	18	25	22	25	24

1/ Includes personnel detailed to the Department of Labor and Industry by the

Maternity, Infant, and Child (Preschool) Health Services

The maternal and child health program is designed to combat infant and maternal morbidity and mortality through a variety of preventive measures. Efficient operation of this program requires cooperation with many other public health programs, but, in particular, the programs of public health nursing, dental health, public health education, and nutrition. In almost every State the maternal and child health program is carried out under the jurisdiction of a separate organizational unit of the health department.

During the period under study, every State health department participated in a program of maternal and child health services. Functions selected from the Report and Plan schedule for this analysis are presented in table 32. They are grouped in two parts: (1) Maternity health services and (2) infant and child (preschool) health services.

Some curtailment in activities, but predominantly in personnel, was evidenced following discontinuation of the Emergency Maternity and Infant Care Program which was set up during World War II to provide medical care to the wives and babies of servicemen in the four lowest pay grades.

Maternity Health Services

Prenatal and Postnatal Clinics

Direct operation or financial support of prenatal and/or postnatal clinics was an activity reported by about three-fourths of the States during the five-year period. The number of States (25) reporting increased performance in 1947 was high in contrast to the low of 13 States in 1946. Major emphasis was assigned to the operation or support of prenatal and postnatal clinics by 23 of the 40 participating States in 1948. Except for 1946, more than half the participating States assigned clinical activity major emphasis.

Stimulation of Local Prenatal Services

Stimulation of local prenatal services was an activity reported by all but four or five States in the first four years covered by this analysis. In 1947, 23 States reported expansion over the previous year in this activity; as many as 28 States expected to expand this activity in 1951. Between 11 and 16 States assigned major emphasis to this phase of the maternal and child health program during the five-year period under discussion.

Consultative Services

No doubt the conclusion of the Emergency Maternity and Infant Care Program was responsible for the drop from 42 to 29 States, between 1948 and

1949, in the number of States providing obstetric consultative service to local clinicians and/or private physicians. With the exception of 1947, the largest number of States indicating expansion in any year was 12. Plans for 1951 revealed that more States would be enlarging this phase of the program as 19 of the 35 States planning participation expected to expand this activity.

Assistance to Local Nurses

Supervisory and/or advisory services to nurses in local areas are made available by almost all State health departments. By 1950 two States had dropped this assistance to nurses employed in local areas, but according to plans for 1951 it will be reactivated in one of the States. Expanded effort in this field was reported by 13 States in 1946 and by 20 States in 1950, with 22 States proposing expansion over the previous year for 1951. More than 30 percent of the States each year devoted major emphasis to the supervisory and/or advisory service rendered local nurses, but the total number of States in any year never exceeded 19.

Education

Continued recognition of the importance of educational activities in a maternity health program, no doubt, accounted for the comparatively large number of States reporting expansion in this activity from year to year. All of the States participated in educational activities for the lay public from 1946 to 1950, and during three of these years about half the States indicated expansion of activity over the previous year's level. Gradually, more attention has been focused on this project. Since 1947 a third of the States have been devoting major emphasis to its performance.

An average of 52 State health departments participated in educational activities for professional groups. The number of States reporting expansion of activity over each previous year somewhat paralleled the number indicating increases in the program for the lay public. In the assignment of major emphasis, however, the number of States giving major attention to educational activities for the lay public each year was about twice the number giving major attention to educational activities for professional groups.

Studies

An increasing number of States are conducting studies of the causes of maternal mortality and of maternal morbidity and operative procedures. The number of States analyzing the causes of mortality increased consistently each year from 41 States in 1946 to 49 in 1950. An additional State planned to conduct such studies in 1951. Studies related to morbidity and operative procedures were performed by 28 States in 1946 as compared to 32 in 1950, with 4 more States planning to engage in such studies in 1951. The number of States reporting expansion in these areas varied somewhat from year to year, but each year more than one-third of the participating States indicated

increased activity in study projects. There was wide variance in the frequency of assignment of major emphasis to these two types of studies. From 10 to 19 program directors devoted major attention to mortality causes, whereas only 2 to 4 program directors placed major emphasis on studies of maternity morbidity and operative procedures.

Licensure

The licensure of maternity hospitals and homes is another activity which has become more widespread each year in the maternal and child health program. As many as 41 States reported the inclusion of this item in their program in 1950 as compared to 32 States in 1946. Expansion over each previous year was reported by about one-fourth of the States. The number of States assigning this project major emphasis in 1950 was only half the number recorded in 1946.

Infant and Child (Preschool) Health Services

Well-Child Clinics

Medical well-child clinics are aimed at protecting the health of the infant and the child of preschool age. During the period covered by this study, 49 to 51 States participated in this activity. With the exception o 1946, between 30 and 40 States indicated expansion in program each year. From two-thirds to three-fourths of the States assigned major emphasis to this phase of the program. The large number of States reporting expansion in this activity over each previous year and assigning it major emphasis indicate the intense effort which has been put forth in this particular field. No other activity in the maternal and child health program included in table 32 received such recognition.

Corrective Services

Corrective service for cardiac conditions or rheumatic fever was made available by more State health departments than for the other remediable defects listed in table 32. The largest number of States providing or supporting this service for any year between 1946 and 1950 was 29. The comparable number for eye, ear, nose, or throat conditions and for visual defects was 21 and 17, respectively. Expansion in these areas was reported by a very limited number of States except in the instance of cardiac and rheumatic fever cases. Also, few program directors considered corrective services to be major functions of their programs.

Pediatric Consultative Service

Another function of the maternal and child health program in the State health department is the provision of pediatric consultative service to

private physicians and to day-care centers. Three, and in some years four, times as many States provided this service to the private physician as provided it to the day-care centers. The general downward trend in frequency of reporting consultative service to private physicians--from 42 to 36 States between 1946 and 1950--may be attributed largely to the discontinuance in 1948 of Federal assistance for maternity and child care under the Emergency Maternity and Infant Care Program. However, some extension of this service was expected in 1951 as 38 States planned to provide pediatric consultative service to private physicians, and 18 of these States planned expansion as compared with only 11 in 1950. No more than eight States in any one year assigned major emphasis to this service.

Assistance to Local Nurses

Excluding from consideration the District of Columbia, all State health departments indicated the provision of supervisory and/or advisory service to local nurses beginning with 1947. Except for direct operation or financial support of medical well-child clinics or conferences, this activity was accorded major emphasis by more program directors than any other. The frequency with which States reported expanded operations showed an upward trend, the number increasing from 12 States in 1946 to 22 States in 1949. While only 20 States indicated growth in this phase of the program in 1950, up to 23 States expected increased activity by 1951.

Educational Activities for Professional Groups

Participation in educational activities for professional groups was signified by every State program director beginning with 1948. Greatest expansion was evidenced in that year, when the number of States reporting growth over the previous year reached 32. This number was considerably higher than the number indicating increase in educational activities for any other year. Although table 32 indicates that more States are placing major emphasis on the educational phases of this program each year, the range in States was only between 5 and 17.

Licensure

During the five-year period, 1946-1950, the licensure of child boarding homes, day-care centers, etc., as a State health department responsibility was very limited. However, there were five more States participating in this function in 1950 than were participating in 1946. Two more States planned to include licensing activities in their program during 1951.

Research Projects

Nine was the largest number of State health departments in any year reporting the operation of research projects for child growth and development. There was also little expansion of this activity from year to year.

Assignment of major emphasis to research of this type was reported by no more than two States in any year.

By 1950, 19 States reported the conduct of research projects in the causes of prematurity. This number represented an increase of four States over the number performing in 1946. No more than three States placed major emphasis on this project during any year of the five-year period.

Personnel

The total number of persons employed full time in the maternal and child health program has been steadily decreasing each year since 1946. Table 33 shows that the personnel in 1946 totaled 873, whereas in 1950 the employees numbered 603, which represented a decrease of 270 employees, or 31 percent.

The profound change which occurred in staffing in this program was in the reduction of the clerical staff. In 1946 up to 72 percent of the total employees were clerks as compared to 42 percent in 1950. Just the reverse was true with respect to nurses; the number of nurses employed in 1946 amounted to 8 percent of the total staff as compared to 23 percent of the total in 1950. The actual decrease in the number of clerks from 1946 to 1950 was 379, while there was an increase of 70 nurses during this period.

Table 32.--Participation by State Health Departments in Selected Maternal and Child Health Services for Designated Years

Activity	Number of States																
	Participating in activity						Reporting expansion over previous year						Assigning major emphasis to activity				
	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950
MATERNITY HEALTH SERVICES																	
Direct operation or financial support of prenatal and/or postnatal clinics	39	40	40	39	37	38	13	25	19	15	15	20	16	22	23	21	20
Stimulation of local prenatal services	48	49	49	48	47	48	13	23	20	21	19	28	11	16	16	14	15
Obstetric consultative service to local clinicians and/or private physicians	42	46	42	29	32	35	12	15	7	10	10	19	11	8	5	2	3
Assistance to local nurses	51	51	52	51	50	51	13	21	19	18	20	22	16	19	19	16	17
Educational activities for:																	
Lay public	53	53	53	53	53	53	18	28	27	26	24	24	10	15	18	18	18
Professional groups	51	52	52	51	52	52	14	24	27	28	26	26	6	7	10	8	11
Studies of:																	
Causes of maternal mortality	41	43	44	48	49	50	14	19	15	17	19	22	10	19	14	13	13
Maternal morbidity and operative procedures	28	29	31	32	32	36	13	17	12	13	12	19	2	2	3	3	4
Licensure of maternity hospitals and homes	32	32	39	40	41	42	12	10	12	11	13	11	14	10	7	8	7
INFANT AND CHILD (PRESCHOOL) HEALTH SERVICES																	
Direct operation or financial support of medical well-child clinics or conferences	49	50	50	51	50	49	16	40	37	34	30	30	32	34	39	39	38
Direct provision or financial support of corrective service for infants and preschool children with remediable defects																	
Visual defects	17	17	17	17	16	16	3	3	3	1	4	4	0	3	0	0	0
Cardiac conditions or rheumatic fever	19	20	25	23	29	29	6	7	10	8	15	13	2	3	3	4	9
Eye, ear, nose, or throat conditions	21	21	21	18	18	18	4	6	4	2	5	8	1	1	1	0	1
Pediatric consultative service to:																	
Private physicians	42	41	40	35	36	38	14	13	10	14	11	18	8	6	6	4	5
Day-care centers	12	10	11	13	11	14	1	0	5	4	1	5	0	0	1	1	1
Assistance to local nurses	51	52	52	52	52	51	12	17	20	22	20	23	15	17	19	13	15
Educational activities for professional groups	52	52	53	53	53	53	12	25	32	23	23	25	5	10	17	17	16
Licensure of child boarding homes, day-care centers, etc.	7	10	11	11	12	14	4	3	4	3	3	5	2	0	0	0	0
Research projects in:																	
Child growth and development	6	6	9	7	7	8	5	5	5	4	2	5	2	2	1	1	0
Causes of prematurity	15	17	17	15	19	20	5	10	8	4	7	14	2	2	2	3	2

Table 33.--Full-Time Personnel Assigned to Maternal and Child Health Services of State Health Departments for Designated Years

Personnel classification	Number employed					Number planned
	1946	1947	1948	1949	1950	1951
Total	873	795	702	681	603	709
Physicians	95	97	97	100	88	122
Nurses	71	58	116	126	141	180
Health educators	5	4	12	13	7	10
Nutritionists	15	17	30	25	15	21
Medical or psychiatric social workers	13	11	11	13	11	15
Clerical, administrative, and fiscal	632	547	381	322	253	268
Maintenance, service, and custodial	*	*	*	41	59	42
Others	42	61	55	41	29	51

* Not reported as a separate class of personnel.

School Health Services

Each activity in the school health program presented in table 34 showed some gain in the number of States participating between 1946 and 1950. Since only a few States provided many of these activities, however, most school health programs are recognized as limited in scope. All States reported participation in some school health activity during these years, and all but one State by 1950 provided health instruction for parents. Designation of the school health program as a separate section, division, or bureau had been made by no more than half a dozen State health departments in 1950. In the other States, school health activities were a part of the programs of maternal and child health, local health administration, public health nursing, or health education.

Cooperative Projects

The coordination of health services of personnel employed by departments of health and of education is fundamental to the success of a school health program. In 1949 and 1950 this was the only school health activity in which 100 percent of the States participated. (See table 34.) Coordination of effort in the school health field was reported by an increasingly larger number of States--from 47 States in 1946 to every State by 1949. Expansion over the previous year was indicated by 31 States in 1950, the highest number reporting growth in activity in any year. Also, more States placed major importance on the cooperative approach to the school health problem than on any other phase of the program. In both 1947 and 1950, 25 States assigned it major emphasis.

Medical Examinations

During the five-year period, programs of direct medical examination of school children or financial support of local medical examination programs were directed to all children of one or more grades by 16 to 29 State health departments and to children selected through screening by 21 to 30 departments. More of the States providing medical examination to selected school children showed expansion each year than those directing the medical examination program to the entire grade. In comparison to all other activities, medical examinations for children selected by screening might be considered outstanding, as the 13 States assigning it major emphasis in 1949 was exceeded only by the number devoting major attention to the coordination of health services between the departments of health and education.

Corrective Service for School Children

Responsibility for the direct provision or financial support of corrective service for school children with remediable defects was discharged by 13 to 22 State health departments during the five years covered by this study. Among the remediable defects for which corrective services may be

offered to school children are: (1) Visual, (2) cardiac, and (3) eye (other than visual), ear, nose, or throat. During the period 1946-1950 the number of States participating in corrective services for cardiac conditions and for eye, nose, or throat defects increased relatively more than the number of States providing corrective services for visual defects alone. No more than six States in any year placed major emphasis on the direct provision or financial support of corrective service for school children with remediable defects.

Consultative Services

In recent years much stress has been placed on methods of adjustment for children with physical defects. One constructive action undertaken by the State health department in helping to solve this problem was that of providing medical consultation service to school teachers and officials regarding methods of adjustment for children with physical defects. In 1946, 23 States reported this activity as a part of their school health program. By 1950 the number of States had increased to 36. While 16 or 17 States reported expansion in this project in 1947 and 1948, never more than two States in any one year assigned it major emphasis.

Health Education

Education of parents with respect to health was a function of 41 States in 1946. The number of States participating in this educational program continued to increase each year until, by 1950, 52 States indicated the inclusion of this item in the school health program. Of the States scheduling health instruction for the parents only, about one-third reported expansion in this activity from year to year; however, close to 45 percent of the total States planned an increased program for 1951. Eleven States assigned major emphasis to health instruction for parents in 1947, and this number gradually declined to only six in 1950.

Research Projects

Vision and hearing testing are two types of research projects carried out in the school health program by State health departments. According to table 34 an average of six more States each year operated research projects for the testing of hearing than for the testing of vision. The actual number of States performing research projects for the testing of vision in 1946 was 8 as compared with 14 States in 1950. The frequency of participation was higher for research projects confined to the testing of hearing--varying between 14 and 21 States during the period under discussion. The number of States expanding these projects never exceeded 12, and only in one year was major importance assigned by as many as 4 States.

Direct Nursing Service

Direct nursing service to schools, which includes health inspections and advisory service to teachers concerning individual problems, was an activity

of 27 States in 1946. Gradually, this number increased until by 1950 there were 35 States providing direct nursing services to schools. The maximum number of States reporting expansion in this activity in any year was 12, while the number of States assigning major emphasis to this project declined steadily from 11 to only 5 States between 1946 and 1950.

Personnel

The school health program, which operates with a relatively small staff, requires the services of physicians, nurses, clerks, and "others." Other personnel reported for this program included health educators, nutritionists, medical social workers, dentists, statisticians, engineers, and maintenance workers. The total personnel summarized in table 35 shows that the number of employees increased from 79 in 1946 to 106 by 1950. Actually, there was a decrease of 25 physicians during this five-year period, but with increases of 34 nurses and 19 clerks the over-all increase in staffing amounted to 34 percent. Only 12 States in 1946 and 11 States in 1950 assigned personnel full time to the school health program. Half of the employees in 1946 were reported by the District of Columbia, while in 1950 the State of Pennsylvania accounted for even a larger share of the total employees.

Table 34.--Participation by State Health Departments in Selected School Health Services for Designated Years

Activity	Number of States																
	Participating in activity						Reporting expansion over previous year						Assigning major emphasis to activity				
	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950
Coordination of departments of health and education	47	48	50	53	53	53	23	26	27	23	31	29	18	25	21	24	25
Medical examination or financial support for:																	
Entire grade	16	24	26	28	29	31	4	16	10	9	11	10	6	8	9	9	8
Children selected by screening	21	26	30	30	30	32	10	19	22	15	14	14	10	11	12	13	10
Corrective service for school children with:																	
Visual defects	13	14	15	13	14	15	6	8	7	5	6	4	5	4	4	3	4
Cardiac conditions	14	17	18	18	22	22	4	8	8	7	12	10	2	4	3	5	6
Eye, ear, nose, or throat conditions	14	16	18	20	20	20	6	8	9	11	7	10	3	4	3	4	6
Consultative service regarding methods of adjustment for children with physical defects	23	30	33	35	36	36	6	17	16	12	10	13	2	2	2	2	1
Parent education	41	44	48	50	52	51	13	15	19	15	17	22	8	11	7	5	6
Research projects in:																	
Vision testing	8	10	11	13	14	18	3	7	9	7	6	9	2	4	3	3	1
Hearing testing	14	16	14	19	21	24	7	8	6	11	12	14	3	2	3	2	2
Direct nursing service to schools	27	32	34	34	35	35	7	11	12	10	8	9	11	10	9	6	5

Table 35.--Full-Time Personnel Assigned to School Health Services of State Health Departments for Designated Years

Personnel classification	Number employed					Number planned
	1946	1947	1948	1949	1950	1951
Total.....	79	65	108	118	106	127
Physicians.....	34	8	21	8	9	15
Nurses.....	6	2	30	51	40	44
Clerical, administrative, and fiscal.....	22	37	39	38	41	45
Others.....	17	18	18	21	16	23

Dental Services

In the period between 1946 and 1950 a broadening of dental health services was evidenced. In 1946 there was a maximum of 40 States which had established a separate organizational unit for carrying out the dental program. By 1950 the number of States with dental units increased to 45; in 5 other States, the dental program was integrated with the maternal and child health program. In Hawaii the dental program was a function of the office of the executive officer; in the Virgin Islands it was a function of the offices of the municipal dentists. One State, Vermont, did not report any dental health program.

Direct Services

During the period under discussion, there was much more widespread participation shown for all activities, and growth of activity was reported for most functions by an increasing number of States during each year. (See table 36.) The number of States providing dental services for preschool and school children showed very sharp increases. In some States these services are restricted to the indigent or to certain age or school groups. Corrective dentistry, prophylaxis, and oral examinations for each group of children were reported by approximately a third more States in 1950 than in 1946. From one to three more States anticipated making these services available during 1951. The proportion of participating States assigning major emphasis to these services was especially high for those made available to school children. Generally, an average of 30 program directors placed major emphasis on such services.

Provision of dental services to prenatal patients continued during the five years among the group of activities less frequently included in the dental program. The number of States making available corrective services and prophylaxis to prenatal patients dropped between 1946 and 1950. Likewise, the number of States assigning major emphasis to these program items declined.

A significant development in dental public health occurred when it was found that applications of fluoride solutions to children's teeth will reduce decay. As many as 45 States reported participation during 1950 in the provision of topical fluoride applications for school-age children. This number represented an increase of four participating States as compared to the number participating in 1949--the first year this service was included in the Combined Report and Plan as a program item on the dental schedule. For 1949 and 1950 this program element was given major emphasis by 26 and 28 States, respectively. Performance or financial support of topical fluoride programs for preschool children was less frequently reported as a program element and was a major program item in only few States. Approximately three-fourths of the participating States reported that more attention was given to the topical fluoride phase of the dental program during 1949 than was given during the preceding year.

In many States the services mentioned here are supplied by itinerant dental units. In 1950, 32 States reported 241 mobile or portable dental units owned by the health department. The comparable number in 1946 was 135; these were reported by 26 States.

Supervisory and Consultative Services

The majority of State dental staffs are equipped to provide some type of supervisory and consultative service to local areas. More and more States are assisting local areas in the provision of dental services. About half the States give financial aid to local health departments for operation of such services. In other States, assistance to localities is made available in the form of personnel, equipment, or materials. Dental consultation to local areas has also become a function of more and more States. In 1946, 36 States provided consultative services, whereas, in 1950, 45 States made such services available to localities. The number of States reporting expansion of effort on this program item has also grown each year.

Surveys

As of 1950, two-thirds of the States were engaged in surveys of selected population groups to determine the dental needs of various ages. The number participating represented an increase of 10 over the number of States reporting the conduct of such surveys in 1946. Three-fourths of the States reported the conduct of studies during 1950 to determine the effects on dental health of such factors as nutrition and fluoridation of water supplies. This also represented an increase of 10 States over the number participating in 1946.

Educational Activities

The importance of a good dental educational program has become widely recognized by State health departments. Educational programs for the lay public were in effect in 51 States during 1950. In 1946 the comparable number of States was 41. The number of States reporting increased activity in this phase of the program rose from 15 to 33 during the five-year period. Educational activities for professional groups showed a considerably higher increase in number of participating States between 1946 and 1950. In 1946 only 34 States were directing educational programs for dentists, dental hygienists, and other professional personnel. By 1950, however, all but six States included professional education in their educational program. Instruction to prenatal groups was made available in about two-thirds of the States. This function was given major attention by a very limited number of States.

Personnel

As will be noted in table 37, significant growth in dental staffs occurred between 1946 and 1950. Personnel data revealed an increase of

48 percent during the five-year period in the number of workers assigned to dental programs. Dental staffs grew from 205 workers in 1946 to 303 workers in 1950. Thirty-three States reported larger staffs for 1950 than for 1946. Twelve States did not report any personnel assigned to dental services in 1946, whereas absence of dental workers was indicated by only seven States for 1950.

Continuous growth in personnel was reflected for each year except 1947. For that year there was a decrease of almost 10 percent over the previous year. Much of the loss occurred in the number of dentists; one State was largely responsible for the reduction in this class of personnel. Between 1946 and 1950, however, an increase of 28 percent was shown.

There was slight representation of other professional personnel on dental staffs. In the "others" group, a sizable number of dental hygienists were identified by the States. The demand for dental hygienists has increased rapidly with the widening interest in fluoride programs. The number of States employing such workers has been increasing as well as the number of hygienists being employed. A very limited number of States reported the assignment of health educators, nurses, and laboratory workers.

Plans for 1951 called for further strengthening of staffs, the proposed increase amounting to about 25 percent. The most significant gains were planned for dentists and dental hygienists. All States except 5 expected to assign personnel to dental services in 1951, with 28 States anticipating augmentation in staff.

Table 36.--Participation by State Health Departments in Selected Dental Services for Designated Years

Activity	Number of States																
	Participating in activity						Reporting expansion over previous year						Assigning major emphasis to activity				
	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950
vices																	
performance or financial support of:																	
--ective dentistry																	
School children	35	34	39	45	45	46	17	21	28	29	25	28	26	28	30	32	28
Preschool children	31	31	36	40	40	43	15	14	17	18	17	24	8	6	11	7	5
Prenatal patients	23	21	20	20	20	21	8	4	6	5	9	12	6	5	1	1	1
Prophylaxis																	
School children	35	33	38	46	46	48	14	18	23	27	28	30	23	24	25	28	29
Preschool children	30	31	34	40	43	45	13	12	19	19	20	27	8	7	7	6	5
Prenatal patients	21	18	17	19	16	18	7	4	2	2	4	10	2	1	0	0	1
Oral examinations																	
School children	37	39	44	48	49	50	14	21	28	27	31	28	22	30	32	32	31
Preschool children	32	35	40	45	47	49	9	13	22	23	23	29	11	10	10	7	6
Prenatal patients	19	17	20	22	21	23	5	4	5	3	5	9	4	2	0	1	0
Topical fluoride																	
School children	*	*	*	41	45	46	*	*	*	39	34	32	*	*	*	26	28
Preschool children	*	*	*	32	37	39	*	*	*	27	26	25	*	*	*	6	9
Supervisory and consultative services																	
Supervision of the adequacy and quality of State-aided local dental services	27	30	33	36	34	37	11	11	13	18	16	22	6	8	8	10	11
Dental consultation to local health departments	36	39	41	45	45	46	10	16	20	26	27	28	14	12	11	13	15
Surveys																	
Performance of surveys of selected population groups to determine																	
Dental needs of various ages	25	30	37	35	35	36	13	15	21	17	18	17	5	8	3	5	6
Effect of certain factors (nutrition, fluorine content of water, etc.) upon dental health	30	32	40	34	40	42	18	18	26	18	16	21	12	14	12	10	10
Educational activities																	
Education of professional groups	34	37	45	45	47	48	15	18	28	31	31	28	13	11	16	17	17
General education of lay public	41	44	46	50	51	51	15	18	18	36	33	35	10	11	9	9	9
Instruction of prenatal groups	30	34	33	33	38	38	6	12	8	9	7	10	2	3	1	1	1

* Not included as an item on the Annual Combined Report and Plan schedule for this particular year.

Table 37.--Full-Time Personnel Assigned to Dental Programs of State Health Departments for Designated Years

Personnel classification	Number employed					Number planned
	1946	1947	1948	1949	1950	1951
Total	205	186	220	243	303	378
Dentists	94	70	106	109	120	158
Nurses	3	4	3	2	5	6
Laboratory personnel	4	6	4	3	3	2
Health educators	10	9	8	6	9	13
Clerical, administrative, and fiscal	47	43	46	58	66	72
Maintenance, service, and custodial	*	*	*	*	5	4
Others	47	54	53	65	95	123

* Not reported as a separate class of personnel.

Nutrition

Only in recent years has the State health department delved into the field of nutrition, and this program, as shown by the data presented here, is still in its infancy. Among the activities of the nutrition program included in table 38, all but two were first introduced in 1948 in the Annual Combined Report and Plan of State health departments. The administration of this program was carried on in separate units, sections, divisions, or bureaus of nutrition in 11 State health agencies in 1946 as compared with 23 in 1950.

Some effort has been made to integrate the program of nutrition into other State health department fields. Most frequently this has been possible in the maternal and child health program and the school health program. In the prenatal and well-child clinics the nutritionist is able to stress improvement of health through well-balanced diets. In the school health program the physicians and nurses collaborate with the staff of the nutrition unit by referring cases of malnutrition to the nutritionist, who in turn works with the pupils and their families in a program of dietary corrective measures.

Scope of Public Health Problem in Nutrition

Two approaches are usually used by State health departments in determining the magnitude of the public health problem in dealing with nutrition. The first approach is through evaluation of the nutritional status of individuals either through special studies such as clinical, dietary, and laboratory findings, or directly through clinics and other services of the public health agency. Evaluation of the nutritional status of individuals through special studies was carried on by 32 States in 1946 as compared with 41 States in 1950. Projections for 1951 indicated further gain, reaching a total of 44 States in 1951. Expansion in these studies over each previous year was attained by as many as 24 States in 1949 as compared with 17 States in 1946 and 21 States in 1950. Six more States than in 1950, or a total of 27, planned an increase in this activity in 1951. The lowest number of States assigning major emphasis to this activity was two in 1948, while six was the highest number of States assigning it major emphasis during the five-year period.

Evaluation of the nutritional status of individuals in clinics and through other services performed by the public health agency was first reported in the Annual Combined Report and Plan in 1948. That year only 4 of the 31 States participating in this activity assigned it major emphasis. In 1949 this evaluation program was reported by 37 State health departments, and 24 of these States indicated expansion in this project over the 1948 level.

The second approach in determining the magnitude of the public health problem in nutrition is in the utilization of existing data available within the State. The 42 States engaging in this approach increased to 45 States

by 1949. Plans for 1951 indicated a further increase to 47 States, representing an addition of 3 States over 1950. While the number of States reporting expansion of this activity declined each year from 22 in 1948 to 13 in 1950, the number of States placing major emphasis on this project increased from 9 to 12 States.

Consultative Services

The nutritionists, physicians, and nurses employed in this program provided consultative services on problems of nutrition to the professional personnel in other programs of State health departments and, in a less extensive manner, to industries interested in this type of service. Since 1946 between 27 and 31 State health departments offered consultative service to industry, but no State had assigned it major emphasis since 1948.

From the number of States participating and the number giving major emphasis to consultative services for the professional staff of the health department as a whole, it appears that this activity predominated over all other nutritional projects in relative importance. This item was first included in the Annual Combined Report and Plan in 1948. For that year, consultative services were offered to professional personnel by 47 States and by 50 States in 1949. One less State participated in this activity in 1950. Slightly over half these States reported expansion in this service over the previous year. The large number of States (32 to 33) assigning major emphasis to this activity was impressive.

Educational Services

The provision of orientation and in-service education in this subject to nutritionists and other professional personnel within the State health departments was reported as a function of a large proportion of the States. About two-thirds of the States programmed on-the-job training activities for nutritionists during a three-year period--1948 to 1950--and well over three-fourths of the States extended such opportunities to other professional staff members of the health department. Each year, approximately half the States signified expansion in these activities over previous years. A much smaller proportion of the States assigned major emphasis to these program items. In the instance of educational activities for nutritionists, between 10 and 14 of the program directors gave this phase major attention each year between 1948 and 1950. Within the same period, 16 or 17 directors placed major emphasis each year on educational activities for other professional personnel of the health department.

Direct Services

Direct service to individuals and groups within the nutrition field was frequently provided through clinics and conferences and through home visits. In both of these instances, the number of States participating advanced consistently each year. It should be pointed out, however, that with so few

employees assigned full time to the nutrition program only very limited areas within each State could possibly be covered by any direct service in any year. Within limitations, direct nutrition services through clinics and conferences were offered by 46 States in 1948, and the number rose to 50 States by 1950, while the number of States which reported direct service provided through home visits rose from 39 in 1948 to 48 States in 1950. For 1951 all but two States planned direct service of a nutritional nature to individuals and groups through clinics and conferences, but no change was contemplated for 1951 in the number of States offering direct service through home visits.

Special Projects

Twenty-nine of the States in 1948 reported taking part in the planning for and/or participation in special projects where nutritional aspects were involved. By 1949 the number of States rose to 44, and plans for 1951 indicated a further increase to 46 States. Expansion of project work over each previous year was recognized by 18 to 25 States, with 4 to 9 States assigning it major emphasis during the three-year period presented in table 38.

Personnel

Although relatively few persons were employed full time in the nutrition program of each State health department, the over-all staff increased substantially between 1946 and 1950. (See table 39.) The total number of employees increased from 62 in 1946 to a total of 143 employees in 1950. Prospects for 1951 indicated an all-time high in staffing for the years under study, with 163 employees planned. In 1946 there were only two types of personnel reported for this program--nutritionists, who accounted for 85 percent of the total employees, and clerks, who represented 15 percent. By 1950 nutritionists represented 75 percent of the total; clerks 19 percent; and physicians, nurses, and "others" constituted only six percent of the entire staff in the nutrition program. Thirty-nine States reported between one and ten employees assigned full time to the nutrition program in 1950. The maximum of 10 employees was claimed by only two States--Maryland and North Carolina.

Table 38.--Participation by State Health Departments in Selected Nutrition Activities for Designated Years

Activity	Number of States																
	Participating in activity						Reporting expansion over previous year						Assigning major emphasis to activity				
	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950
Determining scope of problem by:																	
Evaluation of nutritional status of individuals in:																	
Special studies--clinical, dietary, laboratory findings	32	33	31	40	41	44	17	15	17	24	21	27	5	6	2	4	6
Clinics and other services of the public health agency	*	*	31	37	36	37	*	*	21	24	17	15	*	*	4	3	2
Utilization of existing available data within the State	*	*	42	45	44	47	*	*	22	17	13	19	*	*	9	10	12
Consultative service to:																	
Professionals in State health agency	*	*	47	50	49	49	*	*	26	23	25	20	*	*	32	33	33
Industry	28	27	29	31	29	31	7	11	8	10	10	14	2	2	0	0	0
Orientation and in-service education for:																	
Nutritionists	*	*	36	34	34	36	*	*	19	15	16	16	*	*	14	11	10
Other professional personnel	*	*	42	44	47	47	*	*	26	22	26	23	*	*	17	16	17
Direct service to individuals and groups																	
At clinics and conferences	*	*	46	49	50	51	*	*	17	17	20	13	*	*	17	10	11
Through home visits	*	*	39	46	48	48	*	*	6	10	9	7	*	*	3	1	1
Planning for and/or participation in special projects having a nutrition component	*	*	29	44	45	46	*	*	18	25	24	22	*	*	4	9	8

* Not included as an item on the Annual Combined Report and Plan schedule for this particular year.

Table 39.--Full-Time Personnel Assigned to Nutrition Programs of State Health Departments for Designated Years

Personnel classification	Number employed					Number planned
	1946	1947	1948	1949	1950	1951
Total.....	62	93	96	124	143	163
Nutritionists.....	53	66	68	95	107	122
Physicians.....	0	2	2	3	2	3
Nurses.....	0	1	1	2	2	2
Clerical, administrative, and fiscal.....	9	20	21	19	27	29
Others.....	0	4	4	5	5	7

Cancer Services

Between 1946 and 1950 States made notable progress in organizing and establishing active cancer control programs. Only 30 States were carrying on activities related to cancer control when Federal grants for cancer services were first made available at the beginning of 1947. With provision for Federal assistance to State cancer control efforts, more active consideration was given the cancer problem, and participation became more widespread.

The number of States including cancer control activities in their health programs rose from 30 in 1946 to 49 in 1947. By 1949 all States except one--New Hampshire--reported some type of cancer control activity. (No report is received from the New Hampshire State Cancer Commission--the State agency responsible for control activities--since that State does not participate in cooperative cancer control projects.) In only one other State--Arkansas--is the cancer control program the responsibility of an agency outside the State health department. Prior to 1949 Vermont's control program was the responsibility of the Cancer Control Commission, but responsibility was transferred to the health department in 1949. Data reported by the Vermont Cancer Commission prior to 1949 and by the Arkansas Cancer Commission, which participates in Federal grants, are included.

Organizationally the cancer control program has become well-integrated in the health department. In 1946 there were 21 States which indicated the establishment of a separate organizational unit for administering the cancer control services. By 1950, 40 States had placed responsibility for cancer control activities in a separate bureau, division, section, or unit. Included in these counts were those States in which cancer control services were administered as a segment of the chronic disease control program by an organizational unit established for chronic disease control.

Thirty-six States reported the establishment of a cancer advisory committee to the State health department by 1950. These committees have been of valuable assistance in planning for the full utilization of available resources in the States and in developing well-rounded programs to meet existing and future needs.

Educational Services

Health educational services of one or more types have become important elements in the cancer control program of almost every State. While some States have directed greatest educational effort toward the lay public, others have set up strong educational programs for professional groups.

In 1946 there were 30 States conducting adult educational programs for the lay public, whereas by 1950, 48 States sponsored lay educational activities. (See table 40.) The most noticeable increase in educational measures for the lay public occurred during 1947. Fifty-one States reported participation in physician education for 1950. Participation in educational

activities for nurses and dentists was reported by slightly fewer number of States than for physicians. More States placed major emphasis on physician education than on any other phase of the educational program. Approximately half the program directors considered physician education as a major item of the over-all program in 1950. Expansion of activity over the previous year's performance was indicated for each year by a relatively large proportion of the cancer program directors.

Clinical Services

States reported 450 cancer clinics, diagnostic clinics, and detection centers supported in whole or in part by State or Federal funds during fiscal year 1950. An additional 44 were planned for fiscal year 1951, which would bring the total to 494 if plans were realized. More widespread participation in clinical activity was evidenced during the five-year period. Thirteen States reported direct operation or financial support of cancer clinics during 1946; by 1948, 31 States included this item in their cancer program. For the years 1949 and 1950, 27 States showed participation in cancer clinic operation. Twenty-nine States reported the operation or financial support of diagnostic clinics during 1950; plans for 1951 provided for participation by two additional States. Provision for cancer diagnosis and treatment utilizing the facilities of general hospitals was reported as a program function by 20, 24, and 23 States, respectively, for 1948, 1949, and 1950.

Centers providing periodic examinations to apparently well people for the purpose of detecting cancer were directed or financially supported by the State health department in 24 States in 1948--the first year this particular item was carried on the cancer schedule. Slightly fewer States reported participation in this program item during 1949 and 1950. A recent development which is being used in detection centers is the cytologic test. In 1950, 23 States reported the provision of this service; three additional States planned initiation of activity for 1951.

Statistical Services

Many States have found the use of statistics particularly significant in program planning and in the development of program content. Cancer is reportable by law, State health department regulation, or by some other arrangement in approximately two-thirds of the States. Tumor registers have been established in at least as many States. The number of States maintaining one or more types of statistical services increased from 13 in 1946 to 46 in 1950. Expanded activity in this phase of the program was reported each year by an increasingly larger number of program directors. The proportion of directors giving major stress to statistical services was higher than for any other program item included in this study.

Nursing Services

The extent of State participation in providing or giving financial support to bedside nursing services was limited. Only 17 States indicated

provision or support of bedside care for cancer patients in 1950. This number included six more States than reported this particular service in 1948--the first year the item was included on the cancer schedule. Nursing service for follow-up activities was more frequently a State health department function than bedside care; follow-up service was sponsored by 28, 32, and 36 States, respectively, during the years 1948, 1949, and 1950. The number of program directors assigning major emphasis to this particular activity was negligible.

Personnel

Staffs assigned to State cancer control programs were strengthened considerably between 1946 and 1950. It will be noted from table 41 that over four times the number of workers were assigned full time to cancer activities in 1950 as were reported for this activity in 1946. Plans for 1951 called for further increase in personnel, proposing a total employment of 314 cancer control personnel. A few States did not report separately the workers engaged in cancer control functions as of January 1, 1950, and the number planned for 1951, but included such personnel with other health department programs.

The clerical, administrative, and fiscal group constituted by far the largest portion of the staff. For each of the five years, this group represented about two-thirds of the total cancer personnel. The extension and maintenance of case register systems have necessitated the use of a relatively large clerical staff in cancer control programs. While the number of physicians and nurses engaged in cancer functions has increased considerably during the five-year period, a shortage continues to exist in qualified and experienced personnel of these two categories. In 1950, 24 States reported full-time physicians serving the program on a part-time basis. The 15 nurses shown for 1950 were employed by 11 States. In 1946 only eight States reported the assignment of full-time medical personnel to cancer functions and only two States the assignment of nurses on a full-time basis.

Plans for 1951 provided for a further increase in personnel amounting to 13 percent over the 1950 staff. Greatest relative growth was planned for physicians and public health nurses.

Table 40.--Participation by State Health Departments in Selected Cancer Services for Designated Years

Activity	Number of States																
	Participating in activity						Reporting expansion over previous year						Assigning major emphasis to activity				
	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950	1951 PLANNED	1946	1947	1948	1949	1950
Educational services																	
Conduct of educational programs for:																	
Lay public (adults)	30	43	45	46	48	48	16	30	27	22	25	26	13	11	15	9	11
Professional groups																	
Physicians	*	*	46	50	51	51	*	*	36	35	33	32	*	*	19	19	26
Dentists	*	*	34	42	48	50	*	*	25	27	30	32	*	*	4	1	3
Nurses	*	*	41	45	49	50	*	*	30	33	33	33	*	*	6	4	7
Clinical services																	
Direct provision or financial support of:																	
Cancer clinics	13	22	31	27	27	30	5	18	24	20	20	16	8	14	18	16	16
Diagnostic clinics	*	*	*	26	29	31	*	*	*	22	18	19	*	*	*	12	13
Cancer detection centers	*	*	24	22	21	22	*	*	17	13	10	9	*	*	7	8	10
Provision in general hospitals for diagnosis and treatment	*	*	20	24	23	24	*	*	15	13	16	13	*	*	11	13	13
Provision of cytologic test service	*	*	*	19	23	26	*	*	*	15	12	18	*	*	*	1	3
Statistical services																	
Maintenance of central statistical services (morbidity, mortality, and/or tumor register)	13	28	36	39	46	47	7	21	24	29	35	31	6	18	26	23	30
Nursing services																	
Direct provision or financial support of public health nursing service for:																	
Bedside care	*	*	11	12	17	18	*	*	4	6	10	9	*	*	0	0	0
Follow-up activities	*	*	28	32	36	39	*	*	16	17	20	23	*	*	3	2	1

* Not included as an item on the Annual Combined Report and Plan schedule for this particular year.

Table 41.--Full-Time Personnel Assigned to Cancer Services of State Health Departments for Designated Years

Personnel classification	Number employed					Number planned
	1946	1947	1948[1]	1949[2]	1950	1951
Total	64	93	171	245	278	314
Physicians	9	13	29	31	27	35
Nurses	5	6	7	10	15	19
Health educators	3	3	4	6	7	5
Medical or psychiatric social workers	1	1	2	4	5	3
Laboratory personnel	0	2	6	10	13	13
Statisticians	*	*	*	*	12	14
Clerical, administrative, and fiscal	40	61	113	163	179	203
Maintenance, service, and custodial	*	*	*	3	4	5
Others	6	7	10	18	16	17

1/ Includes personnel reported by the Vermont Cancer Commission.
2/ Includes personnel reported by the Vermont and the Arkansas Cancer Commissions.
Not reported as a separate class of personnel.

Mental Hygiene

The National Mental Health Act of 1946 authorized Federal assistance to States in the development and expansion of State and community mental health programs. Statutory authority for such assistance provided for the administration of State mental hygiene programs by the health department except in those instances where some other agency of State government was charged with this responsibility.

Each State was asked to designate the official agency responsible for serving as the State mental health authority. The department of health was designated as the mental health authority in most States. However, in several States--the number has varied slightly from year to year because of transfer of authority--some agency other than the health department has served as the mental health authority.

In the early part of fiscal year 1950 there were 16 other State agencies administering the State mental health program. Departments of mental hygiene, of welfare, and of institutions were the departments of government other than health most frequently designated. These agencies are required to prepare sections of the Annual Combined Report and Plan pertinent to their activities in this field. Therefore, data in tables 42 and 43 include information submitted by such agencies as well as that furnished by health departments.

Federal funds were first made available to the States for fiscal year 1948 for furthering a coordinated approach to the growing problem of mental illness. Significant progress has been made in the past few years in integrating mental hygiene activities in State public health programs. When the National Mental Health Act was passed in 1946, not more than a half dozen State health departments had centered responsibility for administering mental hygiene activities in a separate organizational unit. By 1950, 28 of the 36 States with responsibility for the mental health program delegated to the health department had a bureau, division, section, or unit identified specifically as the mental hygiene organizational unit. In a few other States a consultant in mental hygiene served on the staff, usually functioning as a part of the bureau or division of preventive medical services.

Mental health authorities other than the health department have also made progress in developing broader mental hygiene programs and in intensifying their efforts toward preventive aspects. Table 42 reflects participation in selected program items by both State health departments and by other State mental health authorities.

Central Administrative Services

Mental health authorities have expanded central office facilities to provide certain administrative services essential to a well-rounded mental hygiene program. Among the most common of this group of services, other than routine administrative services, are maintenance of a roster of mental

health facilities and performance of special research studies relating to mental health. Participation in these activities during 1950 was reported by 40 and 27 States, respectively. The comparable number participating in 1947 was 15 in each instance. Approximately a third of the States reported the maintenance of a roster of the mentally handicapped in 1950, with an additional five States planning to undertake such activity during 1951. While these activities have received major attention by only a few program directors during the years covered by this report, a fairly high proportion of the States reported expansion of effort on these program items, particularly insofar as research projects were concerned. Since 1947 two-thirds of the States engaging in research studies have indicated expansion in the field of research.

Professional Services

To effect the widest possible utilization of services of available qualified personnel, a large number of States have arranged to provide consultative, supervisory, and actual services to other agencies concerned with mental hygiene. A report on the provision of psychiatric and psychological services and psychiatric nursing consultant services was available from the mental hygiene schedule for the first time in 1948. For that year 26, 23, and 7 States, respectively, reported the provision of such services. Since then an increasingly larger number of States have included these elements in their program. Plans for 1951 showed that 41 States expected to offer psychiatric services, 32 States psychological services, and 22 States psychiatric nursing consultant services. The provision of psychiatric social service has also become more widespread in recent years. Fifteen States included this service in their program in 1946, whereas by 1950, 30 States reported performance of psychiatric social service, and 4 more States proposed participation in this item for 1951. Psychiatric services and psychiatric social services have received major emphasis in recent years by a relatively high proportion of the participating States. Likewise, a relatively high percentage of the participating States reported expansion of activity in these areas as well as in the provision of psychological services and psychiatric nursing consultant services.

Clinical Services

The provision of community psychiatric clinical services is one of the most important elements of a State's mental health program. Considerable expansion in the number of mental health clinics has taken place in the last few years. However, many States still have a very limited number of clinical services available.

While the comparable number of clinics supported in part or in whole from Federal or State funds during 1946 is not available from the Combined Report and Plan, there was a total of 327 mental health clinics (all types) reported for 1950 by 47 States. Plans for 1951 called for the establishment of 29 additional clinics. The most common type of mental health clinic is the all-purpose clinic which is available to both children and adults.

Data are not available from the Combined Report and Plan showing how many States were providing clinical services in 1946, but during 1947, 10 States operated or financially supported diagnostic and treatment clinics for all segments of the population. The number reporting such services increased to 39 by 1950. About two-thirds of these States reported direct operation of clinical services for both adults and children; the remainder of the participating States gave financial support to the clinical facilities administered by some other agency. A high proportion of the States each year reported increased attention and the assignment of major emphasis to this program item. In 1950, 24 States reported the provision of clinical facilities offering both diagnosis and treatment of mental illness in children; this was double the number reporting such facilities in 1946. Considerably fewer States operated or financially supported diagnostic and treatment clinical facilities for adults only. The number of States making such services available remained fairly constant during the five-year period.

Educational Services

States have expanded their mental health educational efforts in scope as well as in the extent of effort directed toward various activities. The dissemination of mental health information to the general public was reported as a function of almost every State by 1950. Growth in activity was indicated by a high proportion of the States. The establishment of institutes for teachers, social workers, nurses, and others who deal with people in a professional capacity was reported as a function of better than two-thirds of the States in 1950. This number represented more widespread extension of activity as compared to earlier years. Plans for 1951 provided for four additional States to participate in this phase of the educational program. Some States also sponsored postgraduate institutes for professional personnel. While relatively few program directors placed major stress on either program item, the number of States reporting growth in activity indicated that more effort is being directed to the holding of institutes for many phases of the educational programs directed toward professional personnel.

Training

Perhaps the most serious obstacle to the expansion of State mental hygiene programs has been the shortage of trained and experienced personnel. However, considerable progress has been made recently in alleviating staff deficiencies through established training programs in the mental health specialty fields. As of 1950, a dozen States had set up accredited training programs. More commonly, mental health agencies were providing financial assistance to personnel for training recognized by a college or university as contributing toward a degree. Nonaccredited training programs were in operation in better than double the number of States providing accredited training. Seventeen of the 27 States offering nonaccredited training opportunities accorded major emphasis to this item. The number of persons receiving accredited and nonaccredited mental health training sponsored by all State mental health authorities is shown for 1949 and 1950 in the section reflecting training activities of State health departments, specifically table 45, page 130.

Personnel

Table 43 summarizes the full-time personnel of different classifications serving in the mental hygiene program. This summary differentiates between those reported by State health departments and those reported by States in which another branch of State government serves as the mental health authority. Generally, State agencies other than the health department, which have conducted various preventive mental health services for a number of years, have much larger staffs employed on the program than health departments.

Despite personnel shortages, mental hygiene staffs of State health departments increased almost fourfold between 1946 and 1950. The number of employees rose from 47 employed in 1946 to 177 in 1950; plans projected for 1951 called for the assignment of 67 additional employees or a total of 244.

Employees of State agencies other than health reached a total of 516 in 1950. This number represented substantial growth over the number reported for earlier years. Strengthening of staff between 1947 and 1950 was quite generally reported throughout the States. Further growth in personnel amounting to 23 percent was proposed for 1951 by State agencies other than State health departments.

Representation of specialized personnel such as psychiatrists, psychologists, and psychiatric social workers has been scattered. Only about half the State health departments indicated that the program was under medical direction in 1950. Still fewer health departments reported the employment of full-time psychologists. Psychiatric social workers constituted approximately one-fourth of the total mental hygiene staff of health departments; only a few States, however, employed the greater portion of this group. The proportion of workers of the various classifications assigned to mental hygiene programs by State agnecies other than health department did not vary appreciably from the proportion reported by State health departments.

Table 42.--Participation by State Mental Health Authorities in Selected Mental Hygiene Activities for Designated Years[1/]

Activity	Number of States																
	Participating in activity						Reporting expansion over previous year						Assigning major emphasis to activity				
	1946[2/]	1947	1948	1949	1950[3/]	1951[3/] PLANNED	1946[2/]	1947	1948	1949	1950[3/]	1951[3/] PLANNED	1946[2/]	1947	1948	1949[3/]	1950[3/]
Central administrative services																	
Maintenance of a roster of mental health facilities	*	15	30	34	40	42	*	6	19	15	14	10	*	1	1	4	3
Special research studies relating to mental health	14	15	18	24	27	28	2	7	14	21	18	18	0	3	1	3	2
Maintenance of a roster of the mentally handicapped	*	10	14	16	17	22	*	3	6	5	10	9	*	1	0	2	4
Professional services (operation of)																	
Psychiatric services	*	*	26	34	35	41	*	*	19	28	20	30	*	*	15	18	19
Psychological services	*	*	23	29	29	32	*	*	17	23	17	22	*	*	7	9	9
Psychiatric social service	15	15	21	26	30	34	4	7	15	20	17	22	2	6	10	13	12
Psychiatric nurse consultant service	*	*	7	11	15	22	*	*	5	7	9	13	*	*	0	2	4
Clinical services (operation or financial support of)																	
Children and adults																	
Diagnostic and treatment	*	*	31	37	39	39	*	*	27	29	26	29	*	*	19	29	30
Children only																	
Diagnostic	11	11	7	7	5	5	5	3	5	5	4	4	6	3	2	1	1
Diagnostic and treatment	12	14	18	22	24	24	6	10	13	20	14	15	7	7	16	12	14
Adults only																	
Diagnostic	10	10	3	5	3	3	5	4	3	4	2	1	2	2	0	1	0
Diagnostic and treatment	9	10	9	8	9	9	6	7	9	5	5	5	4	3	4	2	1
Educational services																	
Educational activities for the general public	19	19	35	47	49	49	3	11	28	40	38	34	0	5	8	11	18
Institutes for teachers, social workers, nurses, etc	*	*	19	35	38	42	*	*	17	31	27	26	*	*	3	7	9
Postgraduate institutes for professional personnel	*	*	10	21	24	30	*	*	8	18	17	19	*	*	0	2	4
Training																	
Operation of training programs within agency																	
Accredited training	*	*	*	11	12	12	*	*	*	9	7	7	*	*	*	3	2
Nonaccredited training	*	*	*	22	27	28	*	*	*	16	18	18	*	*	*	5	17
Financial assistance to personnel for accredited training	*	*	*	30	34	37	*	*	*	24	20	18	*	*	*	1	19

1/ Includes data furnished by State agencies other than health departments except as otherwise noted.
2/ Data not available for this year from States in which a State agency other than the health department administers the program.
3/ Data submitted by one State unsatisfactory and not included.
* Not included as an item on the Annual Combined Report and Plan schedule for this particular year or item content not precisely comparable to other years.

Table 43.--Full-Time Personnel Assigned to Mental Hygiene Programs of State Mental Health Authorities for Designated Years

Personnel classification	State health departments						Other State agencies					
	Number employed					Number planned	Number employed					Number planned
	1946	1947	1948	1949	1950	1951	1946[1]	1947	1948	1949	1950	1951
Total	47	56	70	140	177	244	-	158[2]	336	447	516	637
Physicians or psychiatrists	8	12	18	18	21	30	-	34	49	73	77	105
Nurses	2	1	1	2	5	13	-	2	3	3	6	9
Medical or psychiatric social workers	10	14	15	41	51	75	-	39	91	127	147	180
Psychologists	*	7	5	17	21	28	-	22	62	71	75	86
Health educators	0	0	0	3	1	5	-	0	1	4	0	0
Clerical, administrative, and fiscal	17	21	27	56	66	79	-	59	119	164	183	212
Maintenance, service, and custodial	*	*	*	0	0	0	-	*	*	*	5	5
Others	10	1	4	3	12	14	-	2	11	5	23	40

1/ Other State agencies were not required to submit personnel data for this year.
2/ Data unsatisfactory for one State and was not included.
* Not included as a separate class of personnel.

TRAINING PERSONNEL FOR PUBLIC HEALTH PROGRAMS

The training program sponsored by the State agencies administering grant-in-aid funds is not a new program. It began with the enactment of Title VI of the Federal Social Security Act in fiscal year 1936. Part of the funds appropriated each year for the extension of public health activities has been used for personnel training in order to improve the quality of State and local health services. The training program affords the trainee an opportunity to enlarge his technical and scientific knowledge required for the job to which he is assigned. Through orientation and on-the-job training programs, public health personnel keep in step with the changes and ever-progressive developments in the practice of public health.

The selection of personnel for sponsored training from the professional or technical trained ranks is left to the discretion of the State health officer. The types of persons trained are: Doctors, nurses, dentists, laboratory workers, sanitation personnel, and other persons who are, or are to be, employed in official State or local health programs. Also, this group includes those who are not employed by an official health agency, but who will, as a result of the training, render services to public health programs. At the present time the personnel receiving sponsored training must fall into one of the three following pay and allowance criteria: (1) Those who receive stipends instead of regularly established salaries; (2) those who receive salaries but have been relieved of their regular duties for the training period; and (3) those for whom only tuition and travel expenses are paid.

Two types of sponsored training may be authorized. These two types are defined as follows:

(1) Accredited training is academic classroom instruction or approved hospital, clinic, or field training for which a university gives credit toward a degree. Short university workshop classes which contribute toward a degree are also classified as accredited training.

(2) Nonaccredited training is training which is not recognized by a university as contributing toward a degree. It includes supervised experience in health departments, hospitals, or clinics. Also classified as nonaccredited training are refresher courses, short specialized hospital courses, such as those conducted in the fields of venereal disease, tuberculosis, and obstetrics, and general public health field practice.

One way of meeting the need for affording field training to public health workers in the various health programs has been through the utilization of local health departments and other selected installations as field training centers. These centers have the necessary facilities for conducting planned field training for one or more occupational groups of public health workers. In 1949 there were 85 field training centers reported as operating in 17 States and the territories of Hawaii and Puerto Rico. One year later there were 135 such centers in 25 States and the 2 above-mentioned territories.

The number of persons trained during each year and the number of persons for whom training was planned the following year by type of training, (accredited or nonaccredited) are submitted by each State health officer in the Annual Combined Report and Plan. Beginning with 1949 the health field in which the trainee obtained his training was reported as well as the type of training. On the schedule there is a further grouping of trainees as to the length of training. At present this breakdown falls into four periods: Under 6 weeks, 6 to 15 weeks, 4 to 6 months, or 7 to 12 months. For 1950 persons who attended training courses in addition to carrying on their regular duties were reported separately as part-time trainees. Evening courses, institutes, and conferences accounted for most of the training reported as part time. Part-time trainees have not been included in the 1950 figures presented here.

During the five-year span between fiscal years 1946 and 1950, 20,722 persons received some training in public health courses. Just how many of these received accredited training and how many received nonaccredited training is available for four years, 1947 through 1950. This four-year period indicated that 39 percent received accredited training and 61 percent nonaccredited training.

The sponsored training program showed marked expansion from 1946 to 1950 as will be noted in table 44. During 1946 there was a total of 1,592 persons trained; in 1950 this figure rose to 7,066, or almost five times the 1946 total. According to reports received within this period there were more persons trained in Texas (3,833) than in any other State. Minnesota, however, reported the largest increase in the number of trainees--from 16 in 1946 to 864 in 1950. The number of States sponsoring training has varied from year to year. The District of Columbia is the only health department which did not report any sponsored training during the five-year period.

The type of personnel trained includes physicians, nurses, sanitation personnel, laboratory workers, dental personnel, as well as a group called "others." The majority of trainees represented in this latter group are health educators, medical or psychiatric social workers, and nutritionists.

In 1950 there was a total of 7,066 persons receiving training sponsored by State health departments, an increase of 16 percent over the previous year. Of this total there were 2,010 trainees in accredited courses and two and one-half times as many, or 5,056, in nonaccredited training. From reports received it was noted that Massachusetts trained 686 public health workers in the accredited field, which far exceeded any other State that year. New York was second with 199 trainees. In the nonaccredited field Texas ranked highest with 970 trainees, Minnesota second with 839, and California third with 456. The State of Minnesota showed the greatest increase in the total personnel trained, from 364 in 1949 to 864 in 1950; most of the training was in the nonaccredited field.

The majority of the trainees in 1950 received nonaccredited training limited to less than 6 weeks. The largest group of trainees taking accredited courses were in classes of 6 to 15 weeks. There were fewer persons trained in the classes running from 4 to 6 months than in any of the other classes.

Since the training program was instituted, physicians and nurses have always led in the number participating. Almost half the trainees in 1949 and in 1950 were nurses; one-fifth were physicians. However, trainees from the ranks of dental and sanitation personnel, as well as the laboratory workers, showed marked increases from 1949 to 1950. The increase between these two years was fourfold in the dental field and twofold in the other two fields.

Although there was a steady upward trend in the over-all training program, as depicted in figure 4, there actually was a two percent decrease in the number of persons trained in the accredited field from 1949 to 1950. The decrease of 305 nurses in the accredited field was almost offset by the 299 increase in the nonaccredited training field. Greatest increase was noted in the training of dentists; 139 dentists were trained in 1950 in the accredited field as compared with 1 in 1949. In the group of trainees called "others" quite an increase was evidenced in the number of medical or psychiatric social workers trained.

As mentioned previously, for the past two years the trainees have been further identified as to their field of training. (See table 45.) The breakdown of the 7,066 trainees in 1950, according to the health fields in which they received training, is percentagewise as follows: General health 37 percent, maternal and child health 21 percent, mental health 19 percent, cancer 13 percent, dental 4 percent, and heart disease 3 percent. The remaining fields each accounted for only 1 percent or less of the trainees.

The large increases in the number of trainees in certain fields from 1949 to 1950 is indicative of the transition in public health toward the newer and often more highly specialized programs of mental health, cancer, dental, and heart disease. In this same period venereal disease and tuberculosis control programs indicated substantial declines in the number of persons trained. In the venereal disease field there was a decrease of 85 percent, or 202 less trainees than in 1949. Comparable data for the tuberculosis control field showed a 58 percent decrease, or 63 fewer trainees. From a numerical standpoint the decline in the nonaccredited training in the field of venereal disease was much higher than in the accredited training, but the percentage decrease in both types of training between 1949 and 1950 was almost equal.

Trainees whose training courses were carried in addition to their regular duties were reported under "part-time schedule." In 1950 there was a total of 185 persons receiving accredited training and 4,135 receiving nonaccredited training on a part-time basis. These figures were not included in either of the training tables or in figure 4. At least a 50 percent gain over 1950 was anticipated in the number of persons expected to be trained on a part-time basis during 1951. This increase as planned is particularly significant in the newer and more highly specialized public health activities. In the field of heart disease alone, State health officers contemplated the training of 1,370 persons in 1951, which is 10 times as many as in 1950. If plans develop as reported, the cancer field will be responsible for an 83 percent increase in part-time trainees, or from 844 in 1950 to 1,545 in 1951.

The fact that the training program is expanding has been evidenced by the five year's experience (1946-1950). During this period 20,722 persons were trained in some phase of public health work. The accredited training which is contributory toward a degree accounted for about one-third of the trainees. The remaining two-thirds received the nonaccredited training. Decreases in the number of persons trained from year to year could be attributed to the extent of emphasis placed on any specialized public health program during that period. This is particularly true in the nonaccredited field. Refresher or workshop programs are often conducted as circumstances warrant and may not necessarily be maintained at the same level from year to year.

Table 44.--Summary of Personnel Receiving Training Sponsored by State Health Departments, by Type of Training, for Designated Years

Type of training: A--Accredited
N--Nonaccredited

Personnel classification	Number of persons trained on full-time schedule										
	1946	1947		1948		1949[1]		1950[1]		1951[1] (planned)	
	[2]	A	N	A	N	A	N	A	N	A	N
Total.....	1,592	1,699	856	1,707	1,684	2,057	4,061	2,010	5,056	2,262	4,992
Physicians.....	288	455	96	134	691	177	1,115	185	1,188	252	999
Nurses.....	592	608	301	1,005	705	1,490	1,532	1,185	1,831	1,493	1,320
Sanitation personnel.....	252	310	227	183	159	65	291	79	541	87	558
Laboratory personnel.....	154	66	54	43	26	21	85	27	187	27	116
Dentists and dental hygienists.....	78	13	16	65	29	2	213	143	696	40	1,571
Others.....	228	247	162	277	74	302	825	391	613	363	428

1/ Includes training sponsored by State Mental Health Authorities other than health departments.

[illegible] as to type of training not tabulated.

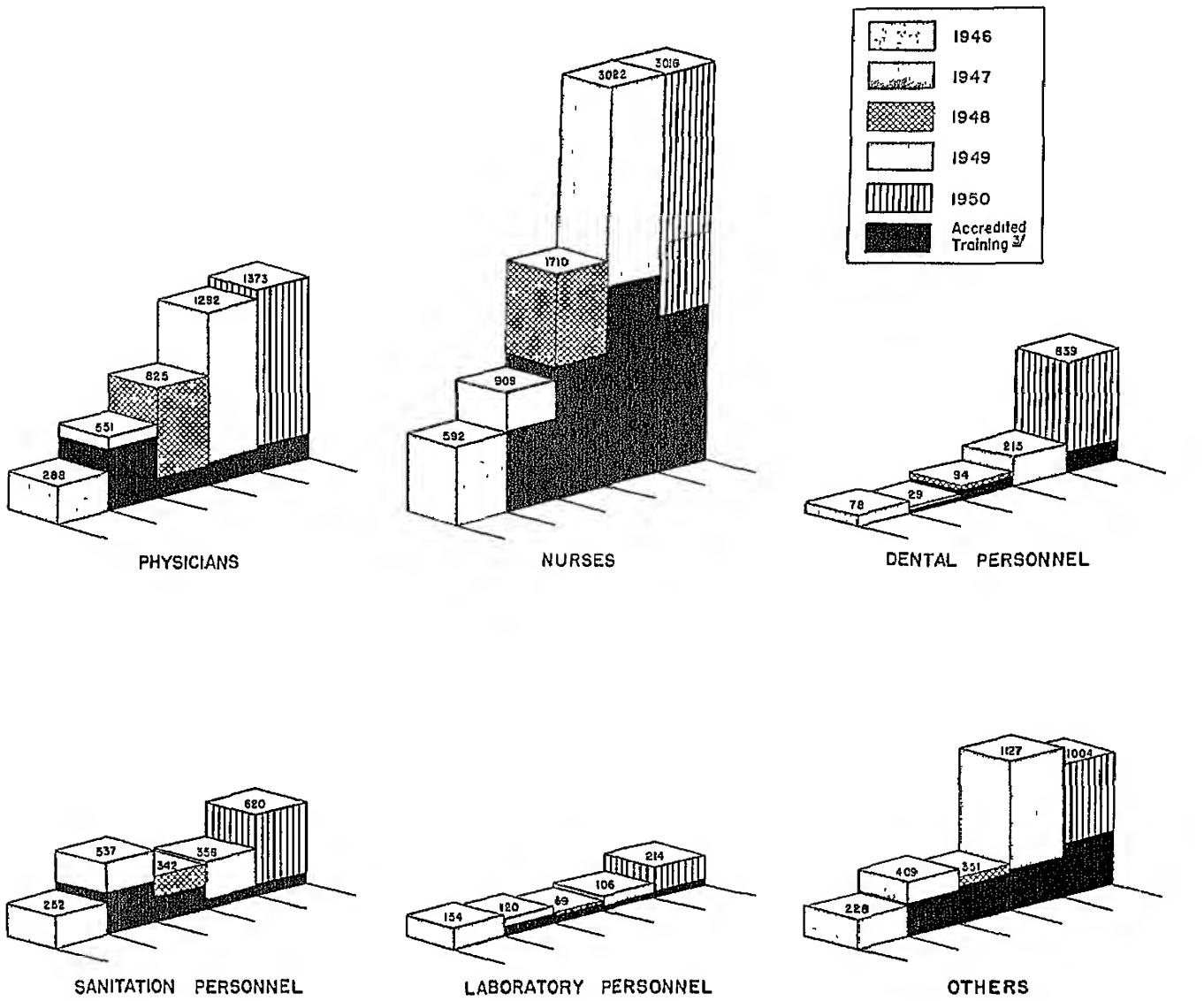
Table 45.--Summary of Personnel Receiving Training Sponsored by State Health Departments in Specified Health Fields for Designated Years[1/]

Health field	Accredited			Nonaccredited		
	1949	1950	1951 (planned)	1949	1950	1951 (planned)
Total	2,057	2,010	2,262	4,061	5,056	4,992
General health	888	804	971	1,581	1,817	2,681
Maternal and child health	203	197	258	963	1,259	803
Crippled children	42	8	22	80	78	108
Venereal disease	41	9	15	198	28	98
Tuberculosis	48	15	37	60	30	58
Mental health[2/]	779	808	883	549	572	253
Cancer	43	132	38	520	806	808
Dental	2	16	26	95	234	141
Heart disease	0	14	7	10	221	38
Industrial hygiene	11	6	4	1	9	2
Water pollution	0	1	1	4	2	2

1/ Includes training sponsored by State Mental Health Authorities other than health departments.

2/ Between 50 and 60 percent of these trainees were reported from a single State by the State Mental Health Authority.

FIGURE 4 – GROWTH IN PERSONNEL[1] RECEIVING TRAINING SPONSORED BY STATE AGENCIES ADMINISTERING GRANT-IN-AID PROGRAMS DURING A FIVE-YEAR PERIOD[2]



1/ In some instances, a person receiving more than one type of training within the year has been counted for each type received.
2/ Number trained for 1950 does not include trainees reported as carrying training courses in addition to their regular duties.
3/ Breakdown as to type of training not tabulated for 1946